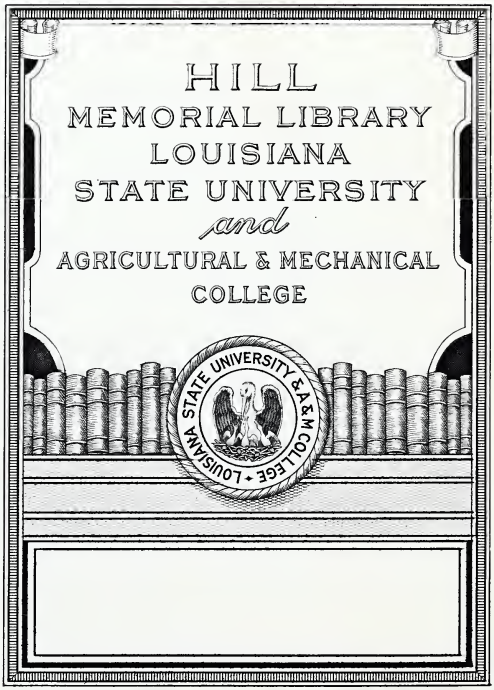
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ol. 26 NEW ORLEANS, LA., OCTOBER 1, 1947 No. 1

MURPHY J. FOSTER
Fourteenth President of the American Sugar Cane League

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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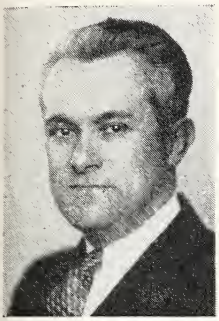
There is a provision in the Sugar Act of 1948 which may become a determining factor in the matter of price and distribution next year. Section 201 provides, in part, the following:



C. J. BOURG

"The Secretary shall determine for each calendar year, beginning with the calendar year 1948, the amount of sugar needed to meet the requirements of consumers in the continental United States; such determinations shall be made during the month of December in each year for the succeeding calendar year (in the case of the calendar year 1948, during the first ten days thereof) and at such other times during such calendar year as the Secretary may deem necessary to meet such requirements."

The effect of this provision will be to make mandatory that the Secretary of Agriculture establish quotas for 1948 during the first ten days thereof. Further provisions of this same Section 201 require that the determination of the total quota shall make available a supply of sugar at prices which are not excessive to consumers and which fairly and equitably maintain and protect the welfare of the domestic sugar industry. In short, the Secretary is given the discretion and the authority to maintain the price of sugar at the level which he considers fair and reasonable.

Of course, the President always has the power, under Section 408, to suspend quotas if he finds and proclaims that a national economic emergency exists.

In addition to this authority, under Section 201, the Secretary has the control and ownership of the entire balance of the 1947 crop of sugar from Puerto Rico and Cuba. He is, therefore, in a position of directing the distribution of such offshore raw sugars in such manner that his Department can realize, without loss, the price paid for these sugars by the U. S. Government. This price is equivalent to the ceiling price for raw sugar in the United States.

In the process of removing OPA controls, Congress has provided that controls over the price ceiling and rationing of sugar shall cease by law on October 31, 1947. Gradually this summer, controls over rationing and inventories have been relinquished by the Secretary and there now remains only the price ceiling regulation which, in the case of raw sugar, is 6.32¢ per 100 pounds.

It is refreshing to recognize that the transition from war controls is being made in the case of sugar without the violent and disastrous fluctuations in market prices and distribution which occurred following World War I. The consumers of the United States should appreciate the protection which has been given them against runaway prices. They likewise have reason to be grateful that the price of sugar, while somewhat above the pre-war prices, is comparatively low in relation to the prices of grains and other foods.

There are decisions of policy being made by the Government which will have far-reaching effect upon the price levels of foods. Apparently the policy of the U. S. will be to feed the populations in the occupied areas of Europe and Asia. This policy is likewise contemplating the necessity for providing food to other nations or at least underwriting and supplying the food. Sugar has been mentioned among the foods to be supplied, with special emphasis on the high content in calories. Thus, the price of sugar is not only relatively lower, but actually offers a greater number of calories needed in the diet of the people to be fed. Accordingly, large quantities of sugar are expected to be furnished in the areas occupied by the United States and her allies. Mention has been made of as much as 500,000 tons of sugar being so distributed—approximately 300,000 tons in Europe and 200,000 tons in the Far East.

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An interesting, and perhaps significant development in the de-control of sugar and its relation to other policies of the U. S. Government, has been the announcement of the International Emergency Food Council that there will be no more allocations of world sugar supplies to the different nations for the rest of 1947. This should permit all nations to purchase as much sugar as they wish for the balance of the year, provided they are able to pay in acceptable exchange. It seems that this announcement will facilitate the distribution of sugar where it is needed most and yet the indication is plain that the supply of sugar which is now available to the U. S. consumers may very well be greatly reduced, depending upon the decisions in high Government circles with respect to our assumption of the major load in feeding the world. The prospect increases that this will involve not only grains but also sugar because of its present relatively low price and its high content in calories.

The Sugar Branch has given assurances to Louisiana raw sugar producers that their 1947 crop can be marketed in an orderly manner. As the Sugar Branch is handling the details of the distribution of Government-owned offshore crops of raw sugar as long as they last, the assurances thus given remove the probability of interference from the Government during the normal marketing season.

It likewise calls for cooperation on the part of the Louisiana sugar producers.

Under the circumstances, there is the distinct possibility that the Louisiana 1947 crop can be marketed at a favorable price provided there in a reasonable degree of cooperation from all elements of the sugar industry and the Government in the maintenance of orderly marketing practices during these critical times.

It is extremely important under the obviously delicate circumstances which could be strained to a crisis, that the Louisiana sugar industry should maintain an industry consciousness.

THE VARIETY CENSUS FOR 1947

By George Arceneaux, Senior Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

Important changes in varietal preference have occurred from year to year in the Louisiana Sugarcane District during the past two decades. Information on varietal substitution has been obtained from time to time through the generous cooperation of county agents who have supplied data on varietal distribution. In some cases such data were based on farm by farm surveys and in other cases on the agents' knowledge of conditions in their respective parishes. The author wishes to express his appreciation of the prompt and valuable assistance received from county agents of the section in compiling information presented in table 1.

Co. 290, the most extensively planted variety in Louisiana during the past decade, still leads in point of acreage, but with only a slight margin over C. P. 34/120. The total of an estimated 77,000 acres devoted to Co. 290 accounts for slightly more than one-quarter of the entire Louisiana acreage. Co. 290 is still the dominant variety in the western area where it comprises more than one-half of the present crop. The proportionate acreage of Co. 290 decreased by 2.63% of the state total since 1945 and by 12.12% of the latter since 1942.

C. P. 34/120, now occupying nearly 75,000 acres, accounts for approximately 37% of the southeastern acreage and 29% of the northern acreage, but holds a relatively minor position in the western area. Increases registered by C. P. 34/120 amounted to 27,000 acres since 1945 and 74,000 acres since 1942.

C. P. 29/320, a variety of major importance for the past 10 years, and now occupying an estimated 52,000 acres recorded its first important decline between 1945 and 1947, with an estimated decrease of approximately 10,

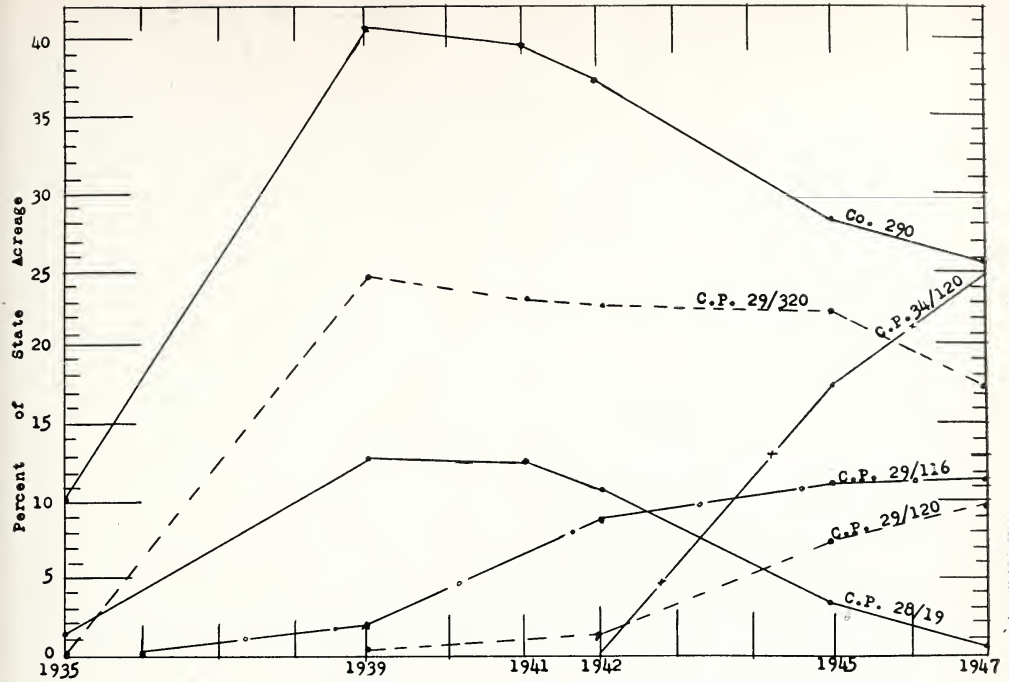


Fig 1. Changes in the distribution of Louisiana sugarcane acreage among important varieties during the period 1935 to 1947, inclusive.

000 acres. C. P. 29/320 is still the most widely planted variety in the northern area where it accounts for approximately 55% of the present crop. It is also an important variety in the the southeastern area.

C. P. 29/116, now covering approximately 34,000 acres or slightly more than 11% of the state total, is largely concentrated in the southwestern parishes where it accounts for about one-fourth of the sugarcane acreage in that area. The acreage devoted to this variety increased slightly between 1945 and 1947.

C. P. 29/120, with a present total of 29,000 acres concentrated largely in the southeastern parishes, has greatly increased in popularity during the past 5 years mainly because of satisfactory adaptability to mechanical harvesting. The area devoted to this variety has increased by approximately 27,000 acres since 1942.

The total of slightly more than 15,000 acres now occupied by C. P. 29/103 represents a drop of 3,000 acres since 1945. This variety now accounting for approximately 5 percent of the state total does not maintain a place of major importance in any of the producing areas.

C. P. 28/19, at one time an extremely important variety, is now approaching the vanishing point as indicated by a total of approximately 1,000 acres in cultivation during 1947.

C. P. 28/11, whose acreage has dwindled down to a mere 1,400 acres, seems also to be on the way out.

C. P. 36/105, a recent release, jumped from experimental plantings in 1945 to 12,000 acres in 1947. The bulk of this acreage is concentrated in the southeastern parishes where the variety already accounts for nearly 7% of the present crop in that area.

C. P. 33/243 and C. P. 33/310 are still confined to relatively small plantings and are apparently not destined to become varieties of any great importance.

Fig. 1, illustrating the changes in distribution of the Louisiana sugarcane acreage among important varieties during recent years, shows some interesting

TABLE 1. Percent distribution of sugarcane acreage according to variety in the 3 principal areas of the Louisiana Sugar District.

A. 1947 Crop

Area	Variety												Percent of State Acreage **
	Co. 290	C.P. 34/120	C.P. 29/320	C.P. 29/116	C.P. 29/120	C.P. 29/103	C.P. 36/105	C.P. 33/243	C.P. 33/310	C.P. 28/11	C.P 28/19	Other varieties	
Southeastern (1)	7.76	37.15	17.66	2.52	18.58	6.11	6.78	0.31	*	0.88	0.74	1.51	44.39
Southwestern (2)	55.04	7.80	0.67	25.71	0.51	4.96	1.78	1.01	1.82	*	*	0.70	38.56
Northern (3)	1.68	29.18	55.23	0.18	6.15	2.48	1.74	1.65	------	0.46	0.17	1.08	15.88
18 Parishes	25.23	24.42	17.07	11.19	9.53	5.08	4.02	0.80	0.71	0.47	0.36	1.12	98.83

B. Varietal increase (+) or decrease (—) in percent of state acreage.

Variety	C.P. 34/120	C.P. 36/105	C.P. 29/120	C.P. 29/116	C.P. 33/310	C.P. 33/243	C.P. 28/11	C.P. 29/103	C.P. 28/19	Co. 290	C.P. 29/320
Increase (+) or decrease (—) from 1945 to 1947	+7.28	+3.72	+2.14	+0.25	+0.20	—0.20	—1.09	—1.42	—2.55	—2.63	—5.18
Increase (+) or decrease (—) from 1942 to 1947	+24.32	+4.02	+9.03	+2.63	+0.71	+0.30	—4.74	+0.62	—10.24	—12.12	—5.38

* Less than 0.5% Included with "other varieties". ** Based on information supplied by Mr. W. M. Grayson.
(1) Ascension, Assumption, Lafourche, St. Charles, St. James, St. John and Terrebonne.
(2) Iberia, Lafayette, St. Landry, St. Martin, St. Mary and Vermilion.
(3) Avoyelles, Iberville, Pointe Coupee, West Baton Rouge and Rapides.

relationships. Of the three varieties which reached their peaks or popularity about 1939 after spectacular gains, C. P. 28/19 is now practically out of the picture, while Co. 290 and C. P. 29/320 are definitely losing ground. C. P. 29/116 and C. P. 29/120, which met much less enthusiastic acceptance in the beginning, are still gaining in favor. It is considered significant in this connection that, in results of our yield tests during recent years, the 3 first-named varieties have shown significant declines in yield capacity in comparison with both C. P. 29/116 and 29/120. The shift in varietal preference is therefore considered entirely justified.

It is interesting to note the rate of acreage-increase maintained by C. P. 34/120 from 1942 to 1947 has roughly paralleled corresponding increases registered by Co. 290 and C. P. 29/320 during period of their respective expansions.

MR. ABNER BLANKS GILMORE

A gentleman long connected with the Louisiana Sugar Industry, Mr. Abner Blanks Gilmore, died of a heart attack at his home in New Orleans on September 17th, 1947 at the age of 70 years.

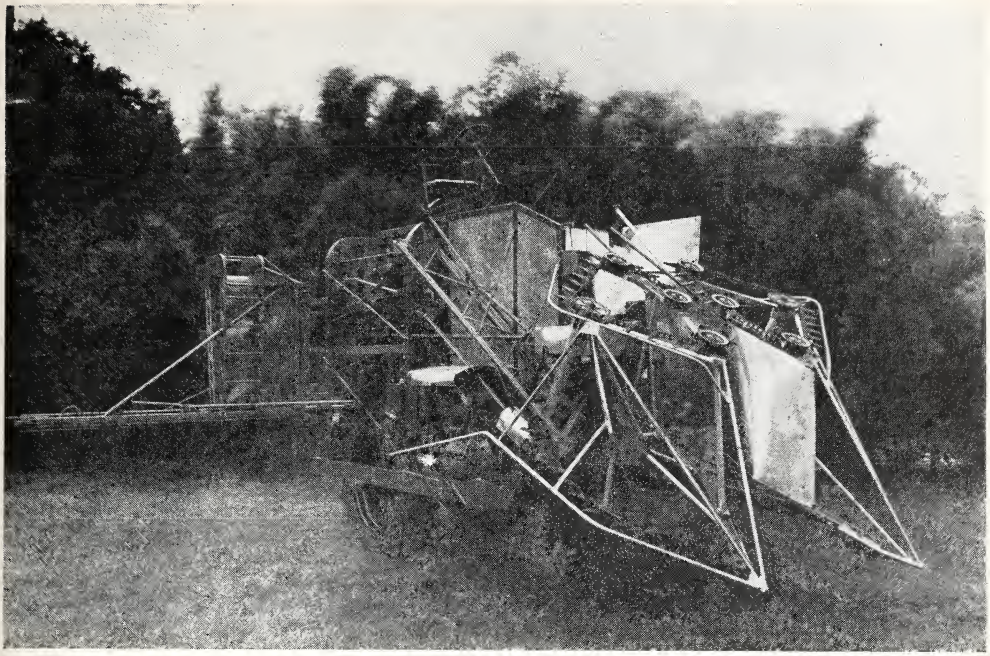
Mr. Gilmore's career as a sugar journalist and crop statistician began shortly after he left college and he was at first associated with his father in the publication of a weekly sugar journal in New Orleans. He afterwards abandoned that line of work and devoted himself exclusively to the compilation of sugar statistics of various sugar producing countries, issuing Year Books or Manuals of the sugar industries of Louisiana, Puerto Rico, Hawaii and Cuba.

In the Puerto Manual were included statistics of Haiti, San Domingo and the Virgin Islands. All of these books were handsomely gotten up from a typographical standpoint and replete with information and figures bearing on the sugar production of the various countries and data covering the individual factories therein.

An energetic, courteous and affable man Mr. Gilmore's friends were legion and his publications were accurate and of a high order of merit. Some months prior to his death he turned his business into a stock company of which his widow is the head and she will continue the publications aided by the several men who comprised Mr. Gilmore's able staff.

CALENDAR OF EVENTS

Wednesday, September 17, 1947: Meeting of the Raw Sugar Committee of the American Sugar Cane League, Sabin Savoie, Chairman, with Al Greenwood, Production and marketing Administration, U. S. Department of Agriculture, at 10:00 A. M., in Room 317, Whitney Building, New Orleans, La. This meeting was also attended by representatives of the Gulf refineries. Plans were formulated whereby the



LOUISIANA LEADS THE WORLD in the mechanization of the cane sugar industry. Pictured above is the 1947 model of the Hurry-Cane Harvester showing the Piler attachment in the open or operating position. This machine is manufactured by the Thomson Machinery Company, of Thibodaux, La.

Gulf refineries, with the co-operation of the Production and Marketing Administration and the producers of raw sugar, will endeavor to handle the 1947 Louisiana raw sugar as it is produced.

Wednesday, September 17, 1947: Meeting of the Grower-Processor Committee, W. F. Giles, Chairman, with George A. Dice, Chief of the Sugar Act Division, U. S. Department of Agriculture and Ward A. Stevenson, Head of the Labor and Fair Price Division of the U. S. Department of Agriculture, at the St. Charles Hotel, in New Orleans, starting at 10:00 A. M. The Government representatives presented elaborate cost study tables which were received with thanks by the Grower-Processor Committee. The Committee decided to hold a meeting on Wednesday, September 24th, in Thibodaux, to further discuss the 1947 Cane Purchase Contract.

Tuesday, September 23, 1947: Annual Sugar Planters' Field Day held at Louisiana State University, in Baton Rouge.

Wednesday, September 24, 1947: Meeting of the Louisiana Sugar Processors held in the Agricultural Auditorium in Thibodaux at 10:00 A. M. to discuss the 1947 Cane Purchase Contract.

Wednesday, September 24, 1947: Meeting of the Grower-Processor Committee, W. F. Giles, Chairman, in the Agricultural Auditorium in Thibodaux, at 1:30 P. M., to discuss the 1947 Cane Purchase Contract.

Thursday, September 25, 1947: Annual Meeting of the American Sugar Cane League held in the Beauregard Room of the St. Charles Hotel, in New Orleans at 1:30 P. M. Murphy J. Foster, of Franklin, was elected the new President of the League, succeeding George L. Billeaud, of Broussard, who has completed his two years in office. See the mast-head of this issue of *The Sugar Bulletin* for the names of the other officers and the members of the Executive Committee elected at the meeting.

ADDRESS OF PRESIDENT GEORGE L. BILLEAUD

Delivered At The Annual Meeting Of The American Sugar Cane League Of The U. S. A., Inc. September 25th, 1947

Members of the American Sugar Cane League:

During the year that has elapsed since we were last assembled in Annual Meeting we have transacted a great deal of business and have handled many matters pertaining to our sugar industry.

We have made contributions of many kinds and of varying amounts towards special projects that have benefitted the sugar industry of Louisiana and we have handled numerous issues that have arisen.

We have contributed substantially towards the recent visit to the Island of Formosa by Dr. E. W. Brandes of the United States Department of Agriculture, where he went to obtain new and promising varieties of sugarcane; we have contributed towards the funds needed by the Federal Experiment Station at Houma to enable those in charge there to properly care for new seed cane varieties; we have contributed towards the expense of transferring many as yet unreleased varieties of cane from their original locations to more favorable ones, notably to the Southdown Plantation near Houma; we have contributed also to the expenses incurred by the Federal Experiment Station at Houma for work performed there in connection with promising seedling canes; we have contributed also to the expense incurred at the Federal Experiment Station at Houma for potting, setting in the field and cultivating promising seedling canes; we have appropriated a sum to cover the employment of an experienced sugarcane man to supervise the work of propagating different new varieties of cane in the various "increase plots" throughout the Louisiana sugar district. We have released for distribution this year the following three varieties of cane, C. P. 34-92, C. P. 36-19 and C. P. 36-183.

But beyond all this, and beyond various other activities too numerous to mention but all having their own special importance and which included the great difficulties that were encountered and overcome by the Louisiana Sugar Industry at a time when we and our Congressional Delegation stood practically alone and final success was achieved and early de-control of the price and distribution of our products by the Government was accomplished; we have, during the past twelve months, helped to bring about the concurrence of the other areas which constitute the domestic sugar industry in a piece of legislation known officially as the General Sugar Act of 1948. This piece of legislation was enacted by Congress July 25th, 1947 and became the law August 8th, 1947, on which date it was signed by President Truman.

This act is noteworthy because it was advocated and urged upon the Congress in unison by the domestic sugar industry of the United States, beet and cane, by the refiners, the departments of Agriculture, of State and of the Interior. With pardonable pride I think that I may claim without exaggeration that the League took a leading part in bringing about this accomplishment.

The act in effect re-enacts the Sugar Act of 1937 under which our industry has lived and has prospered as a whole, but with important changes, and it extends the termination date from December 31st, 1947 to December 31st, 1952, five years. The quota allowed for continental cane sugar is fixed at 500,000 short tons per year. The Fair Price and Fair Wage Determinations, the farming practices, the production and marketing conditions and the acreage abandonment conditions that were included in the 1937 act has been retained in the new act. The bill seems to confer upon the industry a five year lease of security which is more re-assuring than is a one year commitment.

The important subject of the increased amount of cane trash delivered with the cane to the Louisiana sugar factories engaged the League's earnest at-

tention recently and was the subject of many meetings and conferences. Both the cane growers and the factory owners recognize its importance and realize that it has been, at least in part, an outcome of the rapid development of mechanical harvesting. On July 30th last in accordance with the wishes of the Executive Committee of your association I appointed a "Cane Trash Committee" to try to work out a solution of this all-important problem. This committee submitted a report at the August meeting of the Executive Committee. After some discussion it was decided by the Executive Committee that the League underwrite at once the expenditure of $5,000.00, of its funds to be employed towards finding a solution of the problem, and some additional funds later if such action is recommended by the Cane Trash Committee and approval of the expenditure is voted by the Executive Committee.

Widespread efforts are being made and I hope will continue to be made by the Cane Trash Committee to gain cooperation from all component sources toward the solution of this vital problem.

A recent development, which I regret but about which I believe that I should comment, is the apparent disposition of the Federal Government to curtail the sugarcane work of the U. S. Department of Agriculture in Louisiana. This cannot be described as a sudden decision on the part of the Government, but it comes as a result of the general failure of the Bureau of the Budget in Washington, to allot sufficient funds for this special purpose.

The interest of the Federal Government in the scientific promotion of the domestic cane sugar industry dates back many years and its start coincides with the erection between 1935 and 1938 by the American Sugar Cane League of three small buildings near Houma costing a total of some $15,400.00 especially designed for laboratory purposes and their presentation by the League to the U. S. Department of Agriculture. These modest edifices were followed in 1939 by the erection in the same locality of a very handsome brick building, designed by Government architects and presented to the Government but paid for by our organization. Its cost was approximately $25,000.00 and a gift of 20 acres of land costing about $1,350.00 accompanied it. All of this was done by the League in the belief that the Federal Activities here in behalf of our industry would be permanent. I hope this belief will prove well founded. It seems incredible that it should not be.

I should now like to make an observation which has to do with the marketing of your 1947 crop sugars. I hope that you will do this in an orderly manner. I know that the marketing of sugar is really an individual problem, but during this year of transition from war-time prices under government controls to peace-time prices without controls, the slightest act of an individual may bring difficulties and hardships to the entire industry. We are fortunate to have the active support of the Department of Agriculture for the maintenance of the price of our product, and accordingly, I am sure you will agree with me that the industry should be willing to go to great lengths to cooperate with the Secretary of Agriculture.

Before closing this report I want to call to your attention the fact that on this day the American Sugar Cane League becomes 25 years old. It completes a quarter century of existence. I think there are few who will not accord it a generous mede of praise for what it has accomplished. When it was formed the sugar planters of Louisiana were not accustomed to working together. They acted each according to his own personal circumstances and inclinations and judgment. Rugged individualism had for nearly a century been their dominant trait and while that trait had served them well during an earlier and more individualistic era, it developed into a handicap as time went on. The necessity for team work was glaringly apparent when, in September 1922, ninety of them banded together to form this organization, the paid membership of which has now increased

from the original ninety to over eleven thousand. The fact that my uncle, Mr. M. Billeaud, Jr., was among the founding 90 will always be a source of pride and of satisfaction to me.

You have done me honor to elect me your President and I have served the customary two terms and I now desire to step aside to make room for my successor, to whom I extend my sincere wishes for a pleasant, useful and successful administration. I am the 13th President of this organization, and in view of this superstition, I have felt, ever since I was elected to the Presidency, that I ought to carry a rabbit's foot all the time.

I hope I have been able to serve you to your satisfaction during my term of office. I have at all times tried to give you the best that was in me and I have thoroughly enjoyed doing this. I also hope that the League will go on for many years to come under new and abler guidance and will always carry on its banner the slogan that is printed across the bottom of its official charter: "United we stand; divided we fall."

THE MARKETS

In order to bring those of our readers, who possibly have not paid much attention to such matters throughout the summer, up-to-date on the developments in the sugar markets, we print below a brief resume of what has taken place since the resumption of trading on July 1st of this year in this all important part of the sugar industry.

On the morning of July 1st futures opened on the New York Coffee & Sugar Exchange with May 1948 sugars offered at 6 cents a pound, July at 5.65 cents a pound, September 5.73 cents a pound, and December 5.60 cents a pound. (These quotations are all delivered New York in bonded warehouse and the tariff on Cuban sugar of 75 cents a hundred pounds is added to get the price that the purchasers in this country would actually pay for the sugars).

There have been a number of developments since July 1st that were reflected by the future market but the tremendous Cuban production of almost 6,500,000 tons from the crop just completed, the prospects of another large production there in 1948, and the inability of the War stricken countries to buy sugar in the quantities originally anticipated have been the outstanding reasons why the future market has failed to develop the strength that many experts predicted. As we go to press today, September 27th, May is quoted at 5.04, which is 96 points down from the July 1st opening, July is 5.04, down 61 points, September is 5.04, down 69 points, and December is 5.06, down 54 points since the resumption of trading on July 1st.

The sales of actual sugars that have been reported since the resumption of trading have been as follows:

On July 3rd American bought 100,000 bags of Cubas for February 1948 shipment at 5.45 ex duty delivered. (6.20 duty paid).

On July 9th American bought 4,000 tons of 1948 crop Puerto Ricos for February shipment at 6.10 delivered.

On July 14th and 15th the British Ministry bought 200,000 tons of Cuban sugar for shipment through May at 5.00 f.o.b. England.

On July 21st American bought 4,000 tons of Puerto Ricos for February shipment at 6.10 delivered.

On September 18th Colonial bought 3,000 tons of Cubas for February shipment at 5.17 delivered New Orleans, ex-duty (equivalent to 5.92 duty paid).

The refiners in the Gulf area have indicated that they will co-operate with the local producers in handling the coming Louisiana crop and reports indicate that over half, and possibly three-quarters, of the expected Louisiana raw sugar production has been contracted for either at the season's average price, the price date of arrival, or the price prevailing on the day that the sugar is melted. All of these transactions are, of course, based on the local spot quotations and the price at which spot sugars are sold will decide the price to be paid for the sugars under contract. *Incidentally these spot sales will also decide what the sugarcane farmer will receive for his cane.*

Your County Agent Reports

By H. C. Sanders, Director of Agricultnral Extension Division Louisiana State University.

The 6,800 (est) sugar cane farmers in Louisiana may solicit the assistance of the county agents who serve in the areas where their corp is grown. They are supplied from time to time with the latest information concerning the production of cane which emanates from the Experiment Station and they are anxious to work hand in hand with the cane growers.

H. C. SANDERS

That there is a fine spirit of cooperation and camaraderie already existing between the growers and agents is evidenced in the following statistical data gleaned from agents' reports in the sugar cane parishes in 1946.

There were 34 agents who devoted many days strictly to sugar cane work. There were 2,725 farms that were assisted in obtaining improved varieties. Farms totalling 2,466 were assisted in making proper use of fertilizer and 1,072 farms controlled plant diseases, and 337, controlled insects. In the matter of weed control, 670 farms cooperated. These agents made 13,654 farms visits; received 34,667 office

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Louisiana's forty-four million dollar sugar cane crop is of vital importance to all people, but especially is it to those of us who work directly in the field of agriculture. We stand side by side with those who so magnificiently till the soil. Through combined effort like this, agriculture will inevitably forge ahead.

———o———

With the start of the Louisiana grinding season just around the corner speculation concerning the condition of the cane crop is the main topic of conversation. All kinds of rumors about what the storm did have been going the rounds so we decided to get the men who really know, our friends the County Agents, to tell the readers of *The Sugar Bulletin* what actually has happened. The following reports have been received.

Terrebonne Parish: Richard Sonnier advises us that damage to the cane crop in his Parish was light. A considerable amount of cane was blown down but not much cane was broken. Mr. Sonnier estimated the crop in Terrebonne Parish to be about 10% less than that of last year.

Assumption Parish: Moore Valois reports the storm damage to the crop as light with the cane blown down in only scattered fields and little of it broken. He estimated the crop this year in Assumption Parish to be about the same as that of last year.

Avoyelles Parish: Kermit Ducote states that the storm damage in his Parish was medium with a considerable amount of cane blown down but not much of it broken. He estimates the crop in Avoyelles Parish to be 35 per cent less than last year.

Ascension Parish: We have received a report from E. J. Landry, county agent of Ascension Parish, stating that the cane crop in his Parish was heavily damaged by the storm with a considerable amount of cane blown down and much of it broken. He estimates the crop in Ascension Parish to be 25 per cent under that of last year.

Iberville Parish: From Iberville Parish, R. J. Badeaux, Jr., writes that the damage in his Parish was medium with a considerable amount of cane blown down but not much of it broken. He estimates the cane grop in his Parish to be 25 per cent under last year.

Iberia Parish: W. E. Williams, advises us that medium damage was done to the cane by the storm. Not much of the cane was broken but a considerable amount of it was blown down. He says that the downed cane is tangled but that it could recover with favorable weather. Harvesting with machines will be difficult. He estimated the crop in Iberia Parish to be between 15 and 20 per cent less than that of last year.

Lafourche Parish: A. C. Moreau reports that not much cane was broken by the storm in his Parish and that the canes were blown down only in scattered fields. He states that it is hard to give any figures as to the condition of the crop at this time.

West Baton Rouge Parish: A. E. Camus reports heavy damage by the storm. A considerable amount of cane was blown down and broken by the high winds. He advises us that West Baton Rouge Parish has had practically no rain since May although the Poplar Grove Plantation, where some rains fell, had almost a normal crop at the time of the storm. Unfortunately most of the storm damage was to this plantation. Mr. Camus estimates that the crop in West Baton Rouge is about 60 per cent under last year.

St. James Parish: Joseph Lamendola states that medium damage was suffered by the cane crop in his Parish during the storm. The cane was blown down only in scattered fields and

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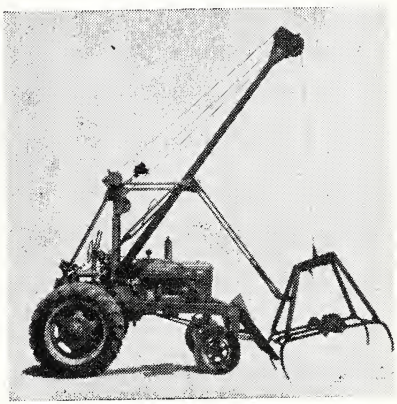

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very little of it was broken. Mr. Lamendola estimates the crop in St. James Parish to be about 10 per cent *more* than last year.

St. Martin Parish: Stanley Angelle reports the storm damage in St. Martin Parish as light with cane blown down only in scattered fields and very little of it broken. Mr. Angelle expects the crop this year in his Parish to be approximately 25 per cent less than last year.

St. Mary Parish: From P. J. deGravelles the report comes that storm damage in St. Mary Parish was light. Very little cane was broken and it was blown down only in scattered fields. Mr. deGravelles estimates the crop this year to be about 5 per cent less than that of last year.

Vermilion Parish: J. L. Sobert advises us that the storm damage in his parish was light, with no broken cane and only scattered places where the canes were blown down. He estimates the crop in Vermilion Parish this year to be 50 per cent less than last year.

St. Charles Parish: A. J. Melancon, Jr. reports that the storm damage in St. Charles Parish was light with very little cane broken and the cane down only in scattered fields. He estimated the crop in St. Charles Parish to be between 30 and 40 per cent less than last year.

St. John Parish: Otis J. Broussard advises that the storm damage in St. John Parish was heavy, with a considerable amount of broken and downed cane. He reports that 34-120 apparently has suffered the least damage. Mr. Broussard estimates the crop in St. John Parish to be about five per cent less than the 1946 crop.

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THE SUGAR BULLETIN

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. 26 NEW ORLEANS, LA., OCTOBER 15, 1947 No. 2

THE HARVEST BEGINS

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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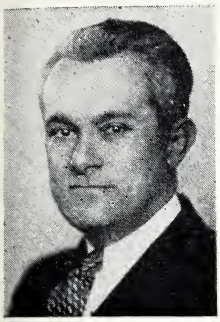
We have given warning in these columns several times since early Spring that fertilizer in the United States generally will be in short supply during 1948. Your Washington Representative appeared before the House Committee on Agriculture with regard to fertilizer, urging the importance of making available to sugar growers an adequate supply. The representatives of fertilizer manufacturers and distributors who appeared before the Committee recommended unanimously that the war controls over fertilizer be not further extended. The Committee agreed with that recommendation, and as a result, we are facing free enterprise in fertilizer distribution. This means to the Louisiana sugarcane grower that comparatively little can be done through Washington.



MR. BOURG

Under the circumstances, Marcel J. Voorhies, General Manager, who is presently in Washington, is in accord with your Washington Representative that the Louisiana growers should make every effort to order their fertilizer requirements immediately and agree to accept early delivery, even in October, if necessary. Very few orders are being placed by growers of other commodities in other sections of the country for early delivery, and it will afford the Louisiana sugarcane grower the opportunity to obtain relatively greater supplies of fertilizer at this time than next Spring. By staggering the receipts of fertilizer, growers are relieving to a great extent the freight car shortage, and to that extent they are reducing the harm which could result to the grower because of such shortage.

Drawing upon his experience while a member of the Extension Service, Marcel Voorhies joins with your Washington Representative in recommending that the growers seek to have the County Agents in the various Parishes intensify their efforts towards obtaining fertilizer for growers on a cooperative basis by pooling small orders into carlots and accepting early delivery.

Sugar Research

Congress adopted last year the Research and Marketing Act and representatives of different commodity groups have been appointed to serve on committees, of which the Sugar Advisory Committee is one of many. A meeting has been held in Washington, attended by both Marcel Voorhies and your Washington Representative.

For the first time in our knowledge, a thorough study is being made of all research work which is being carried on at State and Federal levels and in cooperation with the industry. Scientists from the several Bureaus of the Department of Agriculture have appeared before the Sugar Advisory Committee to explain the work which each is doing in connection with sugar. The Office of Experiment Stations has reported likewise on work being done by Federal and State Stations.

It should be well understood that the Research and Marketing Act is not intended as a substitute for the research work under regular appropriations for the Department of Agriculture. In fact, the Act specifies that the new funds cannot be used to expand old projects. The Act requires that certain parts of the funds be spent in connection with marketing, on utilization or new uses, and to a lesser extent, on production research. This does not mean that where production has a direct influence on utilization and marketing problems, appropriate production projects will not be considered. The Sugar Advisory Committee has taken the position that the production research in sugar is fundamental to the problems of the industry, both cane and beet. Therefore, the Committee is emphasizing and insisting upon the inclusion of projects which go all the way back to plant breeding.

GROWER-PROCESSOR COMMITTEE RECOMMENDATIONS FOR THE 1947 CANE PURCHASE CONTRACT

Editors Note—We print below the recommendations made by the Louisiana Grower-Processor Committee to the Sugar Branch of the Production and Marketing Administration of the United States Department of Agriculture relative to the 1947 Cane Purchase Contract.

The Grower-Processor Committee is composed of seven processors selected by the Louisiana sugar cane processors, and seven cane growers selected by the Louisiana cane farmers. The purpose of the Committee is to handle all matters that are of a controversial nature between processors and growers. This is done in order to avoid the necessity of the American Sugar Cane League participating in matters in which grower and processor interests conflict.

The Grower-Processor Committee has no connection, directly or indirectly with the American Sugar Cane League.

To: *The Sugar Branch*
Production and Marketing Administration, United States Department of Agriculture.

Supplemental and Amended Recommendations of Louisiana Grower-Processor Committee Relative to Fair and Reasonable Prices for 1947 *Crop of Louisiana Sugar Cane.*

This committee at the hearing held at New Iberia, Louisiana, on July 26, 1947, and at the open conference held at Thibodaux, Louisiana, on August 12, 1947, made certain recommendations relative to fair and reasonable prices for the 1947 crop of Louisiana sugar cane. The most significant of these recommendations related, first, to trash in sugar cane, and second, to the conversion factor used by processors in converting tons of actual sugar cane into tons of standard sugar cone.

On September 17, 1947, Mr. Dice and Mr. Stephenson of the Sugar Branch met with this committee at New Orleans, Louisiana, and submitted some twenty tables indicating costs, returns, profits, the distribution of these items and the percentage return on investment both as to farms and mills. Based on these figures and in connection therewith these representatives of the Sugar Branch suggested certain standards which they thought would probably maintain an equitable relationship between growers and processors.

This committee advised the representatives of the Sugar Branch in effect, that it could not accept the figures submitted as being accurate and time or available facts did not permit a full and intelligent consideration of the suggestions made, but that the suggestions and figures afforded a new approach to the question, for which the commitee was deeply appreciative. The committee agreed to reopen its discussions, to have an additional meeting or meetings and advise the Sugar Branch of its reactions.

The committee has met twice since its conference with representatives of the Sugar Branch, and the individual members have given much additional thought to a proper and equitable relationship between the growers and processors in marketing the 1947 crop of sugar cane. At the second meeting of the committee, held on October 1, 1947, after giving mature consideration to all angles of the question, and such additional study to the tables as time would permit, full accord and agreement were reached. Therefore, the committee through this medium makes and files the supplemental and amended recommendations hereinafter set out relative to the determination of fair and reasonable prices for the 1947 crop of sugar cane. All actions finally taken were and these recommendations are by unanimous vote of the grower and processor members of the committee, with a full membership present. The views and recommendations of the committee are as follows:

The Committee has made further study of tables submitted by representatives of the Sugar Branch. Although time and available information have not

permitted any detailed analysis, the committee is unanimous in its view that the figures are not sufficiently accurate to use as a basis for the Fair Price Determination. The figures do offer promise of what may be a more intelligent approach to the question in the future, but as to the 1947 crop, they are merely a combination of projection of figures obtained from the 1945 operations, assumptions and estimates. A spot check of the figures indicates what appear to be serious inaccuracies. In this connection the committee desires to point out in arriving at any conclusion as to costs, returns and profits based on projections, assumptions and estimates, the quantity of cane to be harvested and processed is one of the most important factors. It is believed that because of the drought and hurricane, the 1947 crop will not produce near the tonnage per acre as the estimate on which the figures submitted by the Sugar Branch are based. This belief, if correct, will alone destroy the soundness of any conclusion based on the figures submitted.

The committee is not discarding the figures nor the suggestions made. Arrangements are being made to obtain actual figures on farm and factory costs, returns and profits as to the 1947 crop immediately on the completion of its harvesting and processing. Every effort will be made to obtain these figures through the facilities of the Louisiana State University, and it now appears that the work can be completed within approximately sixty days after the 1947 operations come to a close. The actual figures can then be compared with projections, estimates and assumptions. Full study will be given them by the committee immediately on being made available, in order that it may be determined whether a new approach and formula should be determined in connection with fair and reasonable prices for the 1948 crop.

The committee having reopened the question of fair prices for the 1947 crop, has reviewed its recommendations previously made, particularly as to trash and the conversion factors now in use.

The recommendations previously made as to trash in cane were made after considering certain figures available to the committee indicating the effect of trash in the processing of sugar cane, which figures and their sources are contained in the record of the Thibodaux conference. The testimony of the Chairman of this committee indicates there was serious debate in the committee as to what effect trash should have in determining a fair price, and that the recommendations were the result of compromise. The industry as a whole today is completely unsettled on this question. There are many different opinions and beliefs. There is no unanimity in accepting any figures thus far obtained.

The recommendation of the committee that the conversion factors used in converting actual tons to standard tons of sugar cane be made uniform in that portion of Louisiana east of the Atachafalaya River and in that portion west of the Atchafalaya River, was made primarily because the committee understood that such uniformity would simplify the administrative handling of the Sugar Act and particularly the computation of conditional payments made thereunder. However, it now appears that at least a vast majority of the parties who would be affected by the change would much prefer following the same conversion factors used by them in the past.

In view of the above and as a result of this further deliberation the committee has unanimously decided to rescind its previous actions and recommendations and now requests that such recommendations be not considered.

The committee, and it is believed the Industry as a whole, feels that any drastic change applicable to the 1947 crop would cause serious dissatisfaction in general. Although not perfect, the growers and processors have concluded the 1947 determination should be similar to prior determinations, and that further consideration of any change should be deferred until after the 1947 crop.

Therefore the Committee now unanimously recommends:

(a) That the determination of fair and reasonable prices for the 1947 crop of Louisiana sugar cane be similar to the 1946 determination, except as to the pricing period, which should be comparable: that is, beginning with October 3, 1947, (or the Friday within the first marketing week of actual trading) and ending on January 31, 1948.

(b) That all provisions of the 1947 determination be written in full rather than being incorporated therein by reference to a determination issued in a prior year.

(c) That trash deductions be permitted by directive or administration action of the Sugar Branch in the same manner as permitted in prior years.

The recommendations here made are not to be taken as an indication that the committee feels less strongly of the serious nature of the trash problem. The problem must be solved. At the Thibodaux conference the committee stated it had requested the American Sugar Cane League to sponsor a project in cooperation with the Federal and State Agricultural Stations to intensively study methods of eliminating trash in cane, and the American Sugar Cane League has already appointed a special committee to lay the groundwork.

We can state at this time the special committee of the American Sugar Cane League has been most active. It has met several times since its creation. The best technical minds in the industry are working on the problem. The American Sugar Cane League has appropriated $5,000.00 to be devoted to experimental and research work. Additional funds will be raised in the industry as necessary. The special committee has conferred with representatives of the Federal and State Agricultural Experiment Stations, and both are fully cooperating. Mr. Rampke, Agricultural Engineer, assigned to the Federal Experiment Station at Houma, Louisiana, has made trash elimination his Number One Project. Every effort is being made to make growers and processors alike even more trash conscious. All of this should undoubtedly bear fruit and result in the elimination of the root of evil which is trash itself.

The committee, representing all Louisiana growers and processors of sugar cane, therefore, requests that these recommendations be accepted and approved.

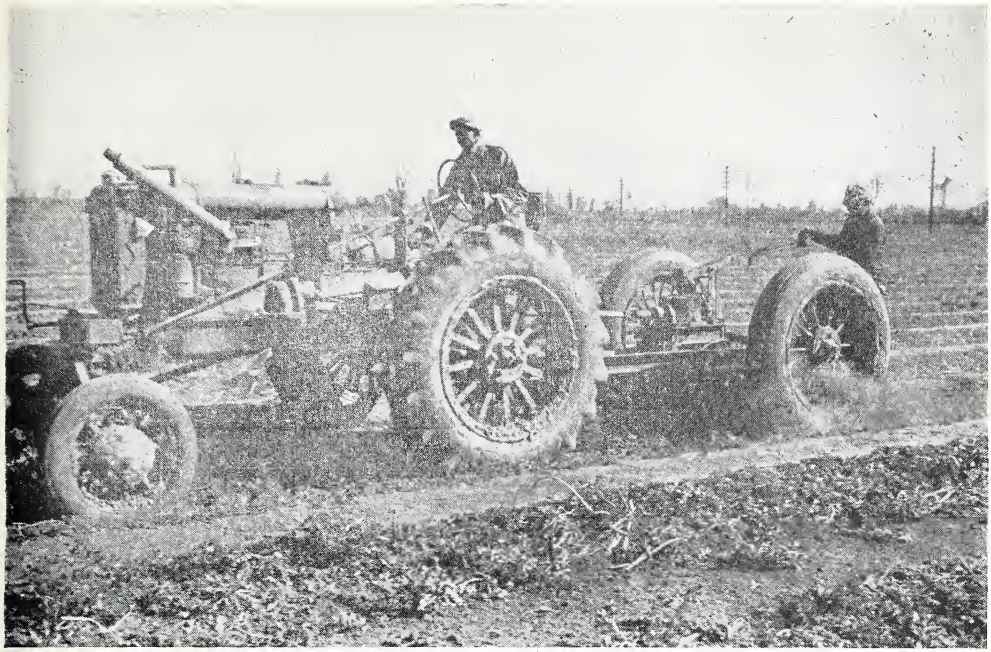
Respectfully submitted:
LOUISIANA GROWER-PROCESSOR COMMITTEE
By W. F. Giles, Chairman

—o—

CALENDAR OF EVENTS

September 29th. Conference in Baton Rouge with W. P. Sellers, State Supervisor of Emergency Farm Labor attended by E. W. McNeil, Chairman of the Labor Committee of the American Sugar Cane League, and Marcel J. Voorhies, General Manager of the League. Jamaican laborers will not be available this season to the Louisiana sugar industry but it may be possible to secure Bahamians. Mr. Sellers has sent the following information regarding the Bahamians to the county agents in the sugar parishes.

1. *Availability of Bahamians.* They will be available from October 15th as they are released in the North.
2. *Length of Contract.* Bahamians cannot be contracted for later than December 10th.
3. *Housing.* On farms or camps similar to manner in which Jamaicans were housed last year.
4. *Wages.* Guarantee same as with Jamaicans. Also compliance with minimum wage standard as determined by sugar program.
5. *Transportation.* Transportation to Louisiana will be paid by the Labor Branch. The Labor Branch has indicated that they would request employers to pay 50% of transportation from Louisiana to Charleston, S. C., after termination of contract (December 10th) It was pointed out that this may be the deciding factor as to whether or not these workers are made available.



LOUISIANA LEADS THE WORLD in the mechanization of the cane sugar industry. Pictured above is a stubble shaver in operation in a Louisiana sugarcane field. This machine is manufactured by the Castagnos Cane Loader Company, Inc., of Donaldsonville, La.

October 1st. Meeting of the Grower-Processor Committee, W. F. Giles, Chairman, in the Agricultural Auditorium in Thibodaux, to discuss the 1947 Cane Purchase Contract. The Committee unanimously agreed to recommend to the U. S. D. A. that the contract this season be unchanged from that of last season (see page 20). The Committee members present were: W. F. Giles, J. A. Lanier, Warren Harang, Lionel Kling; J. J. Shaffer, Jr., D. W. Pipes, Jr., and Ed. Schexnayder (alternate for Andrew McCollam) for the growers, and Frank L. Barker, J. J. Munson, George Billeaud, M. V. Yarbrough, E. W. McNeil, Jules M. Burguieres, and Walter Godchaux, Jr., (alternate for R. M. Murphy) for the processors.

October 2nd. State Farm Council meeting held in Baton Rouge. Murphy J. Foster, President of the American Sugar Cane League, attended this meeting as a member of the Council.

October 3rd. Meeting of the Louisiana Sugar Producers' Club (Western Division) held in New Iberia. This club is not connected with the American Sugar Cane League. C. B. Gouaux, cane expert of the Louisiana State Experiment Station, reporting on how the various cane varieties took the storm, stated that C. P. 29-120 weathered the storm better than any other variety. He reported that C. P. 34-120 stood up well; C. P. 29-320 showed lots of broken tops and leaned badly; C. P. 36-13 leaned and developed a crook (a crook seems to develop brittleness that breaks like glass); C. P. 36-105 leaned slightly but stood the storm very well; C. P. 36-183 was downed badly and badly crossed; C. P. 36-19 showed very bad breakage; and C. P. 34-92 leaned slightly but stood the storm very well. The last three named varieties are those that have been released for commercial planting this year.

October 5th and 6th. Meeting of the Agricultural Committee of the National Planning Association at the Shoreland Hotel, in Chicago. Marcel J. Voorhies, General Manager of the

American Sugar Cane League, is a member of this Committee and attended the meeting. Overall problems effecting agriculture, including export and import policy, agricultural surpluses, farm cooperatives, and rural housing were discussed.

October 8th and 9th. Meeting of the Sugar Advisory Committee Under The Marketing Act of 1946, in Washington. Marcel J. Voorhies, General Manager of the American Sugar Cane League, who is the representative of the Louisiana sugar industry on this committee attended the meeting. Certain recommendations for sugar research were made.

W. PRESCOTT FOSTER

Mr. W. Prescott Foster, an outstanding figure in the Louisiana sugar industry, died on the night of October 9th, 1947 at his family home in the town of Franklin, St. Mary Parish, Louisiana. He was a son of a great Governor of Louisiana, Murphy J. Foster, who held office at the troublous time of the abolition of the Louisiana State Lottery. He was to the manner born politically yet never sought the glitter of high public office for himself.

Mr. "Press" Foster, as he was familiarly called by his legion of friends, busied himself in industrial affairs and therein he was eminently successful. At the time of his death he had extensive sugar plantation holdings in St. Mary Parish, including the directorship of both the Alice "C" and Maryland sugar factories. He also was President of Young's Industries, Inc., which represents a consolidation of all the farm and factory corporations in the Western part of the Louisiana sugar district formerly controlled by Dr. R. O. Young. This corporation owns and cultivates over 5,000 acres of land and operates the Youngsville Sugar Factory.

Mr. Prescott Foster was also identified to a greater or less degree with numerous other activities related in one way or another to the sugar industry of Louisiana. As a business man he was conspicuously successful in his undertakings; in personality he was friendly, agreeable and attractive, and hi friends were legion all through th Louisiana sugar cane belt from Eas to West.

He is survived by his widow th former Miss Willie Palfrey, membe of a Louisiana family of distinctio and also by a daughter, Mrs. James Bailey, his mother, the widow of fo mer Governor Foster, a sister, Mr Bessie Foster Penick, and a brothe Mr. Murphy J. Foster, who is Pres dent of the American Sugar Can League of the U. S. A., Inc.

CANE MILLING

by

*Jules A. Lorio, Manager, Sugar Mi Division, Dibert, Bancroft and Ross Co., Ltd.**

Many articles have been written o the subject of cane mills; many theorie have been advanced, but as far a grinding cane is concerned, we are sti experimenting. We will endeavor t cover, in a short period of time avai able, some of the outstanding step that have been developed in recen years, which have materially assisted i the more efficient manner of juice ex traction from the cane.

The Feeder Table and the Cane Ca rier have undergone no material change over a period of years, except supe ceding steel overlapping slats for th old wooden type slats, and this is a satisfactory a method of cane convey ance as can be designed.

The installation of the Rotary Can Knife was a great step forward in can milling, and came at a time when th cane was soft and easy to grind. Bu since that time we have a new variet of hard cane having a high fiber con tent, and it would be impossible t grind any cane today at all witho the Rotary Cane Knife. These knive were first operated with steam engine —and some are still operated wit steam engines—but it has been foun economical to supersede these stea engines with steam turbines. The ne step was the installation of two knive without any changes in the cane carrie design. Some of these knives we

driven independently and some are coupled together and driven by one engine. The most successful method, up to the present time, has been to operate these two knives independently, with two separate individual drives; having one knife operate in one carrier, and the other knife operate on another carrier, which has been dropped so that the ingoing cane to the second set of knives will be turned over and presented the bottom of the cane carrier to this knife. This prepares the cane in a fairly good manner for the crusher. It has been found, however, in recent years that a better extraction can be derived by using one knife and one shredder. This shredder is made up of the hammer type with reduction gears operating at approximately 1000 RPM. This breaks up the cells of the cane in such a manner that after passing through the crusher there exists a better condition for masseration, and also lightens the load considerably on the balance of the mill tandem.

One of the most important stages which has, in the opinion of the writer, been given less consideration than any step in the milling of cane, is the man who feeds the cane into the mill. If we just stop to think; the whole process in terms of capacity, is in the hands of this operator, and usually in the hands of an average employee. Many types of equipment have been designed to make this station automatic, but up to the present time, it is still a manually operated station. It has been said that in order to increase human efficiency, it is necessary to create an incentive, and I believe that a certain type of bonus should be paid to this operator in whatever terms that may suit the condition. You will then see an extra amount of sirup tanks made per watch, and in

Remarks of President Foster at the Annual Meeting

George Billeaud and fellow members of the League, I am very deeply appreciative of the honor which you have bestowed upon me this afternoon. I realize that a lot of responsibility goes with the position of President of the American Sugar Cane League. I fully realize that it is a very, very serious job that I am taking over. However, I think with Marcel Voorhies to guide my wavering footsteps in New Orleans and Clarence Bourg to guide them whenever I may be in Washington, and last but not least, gentlement, if I get one hundred percent co-operation from the Executive Committee and from every one of the 11,000 members of the League to whom the President just referred to, I am not afraid. I sincerely plead for that co-operation now. If I get it, it will be easy sailing; otherwise, it will be very hard. I am again asking for it and I promise all of you that I will do the best I can.

There has been an addition to the officers and also one to the Executive Committee. I want to greet the new officer and new member. We have as our new Third Vice-President Mr. Paulin Duhe, and Mr. Ed. Schexnayder has been elected a new member of the Executive Committee. I want to extend to both gentlemen the courtesy of a warm welcome.

I hope I can live up to the trust and faith that you gentlemen have placed in me and I thank you with all my heart for the honor you have paid me.

Gentlemen, my first official action here as President is a very, very pleasant one. I have been instructed by my boss, or bosses, which is the Executive Committee of the American Sugar Cane League, to make a presentation to our outgoing President, Mr. George Billeaud, of a little token of our gratitude and appreciation for everything that he did while he was in office. George, the old gavel that you used for two years has been properly inscribed and it is with great pleasure that I am allowed to present this gavel to you which gavel you used so wisely and so well during your term of affice. It is presented in the name of the Executive Committee.

terms of dollars this cost will be infinitesimal. By virtue of this incentive you will grind possibly 100 to 150 tons of cane more per day; your mills will choke less, and you will have a more uniform feed through your mill, because it will not take the operator very long to realize that a uniform feed prevents choke that costs him money. He will automatically endeavor to increase the capacity of the mill feed; and the uniformity of this feed will tend to a smoother and more efficient operation of the whole plant; as the whole efficiency of the milling plant, and its output depends entirely on the amount of cane ground per day. I personally believe that too much emphasis cannot be placed on this important station.

It has been the practice in Louisiana to use two roller type crusher with nine or twelve roller mill tandem. The old Krajewski type crusher is gradually passing out of the picture; still some of the Operating Engineers think they are worth keeping in operation—and maybe they are right. Krajewski type crusher will take any amount of cane you will feed to it, but it will also retain a large percentage of juice, which it has extracted due to its characteristic design. We now supersede the old Krajewski type crusher with a type having annular grooves 3″ or 2-1/2″ pitch, 50° with longitudinal grooves cut to within 1/4″ to 3/8″ of the bottom of the annular groove, and an extra set of longitudinal grooves about 5/8″ to 3/4″ deep and 1-1/4″ long. It has been found that this extra groove increased the efficiency of the crusher by eliminating chokes, and the annular grooved crusher gives you a well designed drainage. However, modern milling is now designed with knife and shredder eliminating a two roller crusher and substituting this design with a three roller mill of heavy construction with longitudinal grooves and 2″ pitch annular grooves, 50° which has proven to be very successful. The most successful type of shredder installation has been the one in which the shredder has been installed sufficiently ahead of the first station, whether it be a crusher or three roller mill so that the conveyor is of the overlapping or drag type designed to feed into a hopper ahead of the crusher or first mill. This method has been proved superior to the closed type installation.

The two, three, four and possibly fifth mill arrangement which constitutes a tandem, is more or less of the conventional type with very little changes from the point of installation. There are several types of intermediate carriers such as the Ewit Carrier and the Mienkie Carrier, but the most successful type has been the overlapping steel slat type.

The design of the mill itself has undergone radical changes in the last several years. The old kingbolt type has been superseded by the kingboltless type, which permits the roller to operate at a closer combined angle, and gives you a narrower return plate. All cast iron has been superseded by cast steel except the rolls, scraper tips and return plate. The turnbeam has been redesigned to have an outside adjustment actuated by an eccentric shaft with bronze crossheads which permits a quick and easy change of your mill setting during the grinding campaign. The journals of the mill have been increased in diameter and length and all the bearings are made of solid bronze water cooled design. The hydraulic pressure has increased on new mill design, so as to carry from 400 to 600 tons pressure per mill.

The old type weight Hydraulic Accumulator has been superseded by the Munson type air accumulator, which facilitates the change of pressure on your mill by a regulating valve, which pressure can be changed at will during the operation of the mill. The speeds of the mill have been increased from 25 feet per minute to 40, 50, and in some instances 60 feet per minute so that the increase capacity of mills have been correspondingly increased. There is a question as to the advisability of mills operating up to 60 feet per minute and at the same time retaining the proper mill efficiency that would be possible at a slightly lower phariphial speed.

The gear design has undergone changes also with its corresponding theories pro and con. The first reduction has now been superseded by cut gears of approximately 1-D P, either straight cut or herringbone type increasing the face to develop the necessary horse power. All pillow blocks are now made of cast steel, babbitted line or bronze line. The intermediate and main spur shaft have been increased in size and all of uniform diameter, with one type of pillow block bearing for all shafts. The bed plates are now made of cast steel bolted together with key type locking device which makes it impossible under any operating condition to break this installation.

At this point I would like to give you an example of what happened in 1941. In that year we made for Godchaux Sugars, Inc. a complete gear bedplate to drive a nine roller mill with its corresponding cast steel pillow blocks using the old gears. In this gear train all old gears were made of cast steel except the last main spur gear. This gear train is driven by a 28″ x 60″ Corliss engine. Under full load with its engine running 50 RPM a section of the last cast iron gear rim broke and fell into the main spur gear pinion instantly stopped the whole gear train. With the fly wheel endeavoring to continue its momentum, the only break which occurred was bending an 11″ intermediate gear shaft having 40″ centers. A spare cast steel gear was on hand which was placed on the main spur gear shaft, a new intermediate gear shaft was made and operation was resumed after a twelve-hour shutdown, which thoroughly demonstrates the rigidity of this type of gear construction.

It is the opinion of the writer, that a nine roller mill should not be operated with one engine. However, we manufacture and design nine roller mill driven by one engine due to the cost involved, and the wishes of the purchaser.

No mill will operate uniformly. Each mill has characteristics of its own and with an independent engine driving the last mill, flexibility can be obtained which is not possible with one engine drive.

The ideal milling condition is to have each mill separately driven. This has been done successfully in foreign countries with separate electric motor drives, which is an exception rather than a general rule. As factories are still adhering to the steam driven power, it is with pride that I can state that Louisiana, at this time, is experimenting with an individual mill drive, which I think will be the answer to the future mill power requirements.

Due to the foresightedness of one of the young managing sugar engineers, Mr. Charles S. Savoie, who will put out his money on an idea, I feel that the Sugar Industry will greatly benefit. At Lula Factory, they will install for the grinding campaign of 1947 a single steam driven turbine on the last mill at a cost of about $20,000.00. All the necessary data has been carefully assembled and computed and participants in the design of this equipment feel that it will be a success. At a cost of $20,000.00 to $25,000.00 for a complete mill drive of this type there is a considerable savings over the old conventional type of engine, gear train, and foundation cost, and the flexibility accomplished in this type of design far exceeds the initial cost.

In conclusion I wish to say that the Louisiana Factories, notwithstanding the lean years and the good years, have kept abreast of the times, and most of our factories today compare favorably with factories of other parts of the world. The factory owners have placed their problems in capable hands, and with proper legislation, Louisiana will continue to be a sugar producing State, which has been such a material help to the whole sugar situation of the United States in our recent crisis, and this industry urgently needs proper legislation so that Louisiana will continue to be a sugar producing State which past experience has shown to be of vital interest in times such as exist today.

* Presented at the meeting of the Manufacturing Section, of the Louisiana Society of Sugar Technologists, Houma, La., July 22, 1947.

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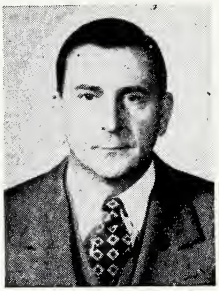
Your County Agent Reports

Trends of the Sugar Cane Farmers In St. James Parish by Jos. Lamendola, County Agent.

The high cost of production and scarcity of labor during the war years has almost completely revolutionized sugar cane farming in St. James Parish.



MR. LAMENDOLA

The old ways of cultivating and harvesting has given way to the new improved labor saving machinery found on most farms. The cost of the equipment has been out of reach of the smaller sugar cane growers and as a result the smaller farmers have gone out of business due to high cost of production and scarcity of labor. The larger farmers have increased their units and have added labor saving machinery such as harvesters and loaders. As a result of this the sugar cane farmers are getting fewer and larger in the parish. In 1942 there were 262 growers as compared to 156 today. The acreage has increased from 13,297 acres in 1942 to 19,205 acres, an increase of about 44% since 1942. Lack of proper drainage has prevented the farmers from expanding further.

The increased acreage in the parish caused a milling problem during the last two years. That problem was solved this year when 15 leading farmers of the West Side organized a sugar mill cooperative, known as the St. James Sugar Cooperative, Inc. This mill will operate this grinding with a capacity of 1,700 tons daily. It is estimated that over 100,000 tons of cane will be supplied by its members.

St. James Parish ranks third in the production of cane per acre in the Sugar Belt averaging 21.20 tons per acre.

The effect of the hurricane was slight and it is estimated that only a small percentage of the cane will need to be cut by hand. The labor outlook for grinding is fair, but plans are being made by some growers to import some labor.

Continuing our crop news, in co-operation with the county agents, we have received the following reports from the parishes listed:

St. John. Otis J. Broussard advises us that the cane crop in his Parish has shown some improvement since the storm. He thinks that it will be possible to use mechanical harvesters in most of the fields and that harvesting operations will begin about the 20th of October. The cane crop in St. John Parish now appears to be about 12 per cent under that of last year. The labor supply will be sufficient for the harvest.

Terrebonne Parish. From Terrebonne Parish Richard Sonnier reports that the crop in his district has not improved since the storm. Harvesting operations there are scheduled to begin about October 15th and it will be possible to use mechanical harvesters in most of the fields. The crop on October 8th, when Mr. Sonnier sent in his report, appeared to be still a little green. The cane production in Terrebonne Parish still looks to be about 10 per cent less than that of last year.

Lafourche Parish. A. C. Moreau reports that the cane crop in Lafourche Parish has improved since the storm and that it will be possible to use mechanical harvesters generally throughout the Parish. He gives October 25th, or probably October 30th, as the date on which harvesting operations will get under way. He thinks that the total cane tonnage in his district will be about the same this year as last year but this is because 36,800 acres are in cane compared with only 34,000 acres used last year.

Iberia Parish. From Iberia Parish W. E. Williams advises us that the canes have shown very little improvement since the storm. Mechanical harvesters will be used where possible but not generally throughout the Parish. Harvesting operations are scheduled to begin about October 25th. Mr. Williams still estimated the cane crop in

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his district to be from 15 to 20 per cent less than last year.

Assumption Parish. Moore Valois reports no change in the condition of the cane crop in Assumption Parish since the storm. The cane tonnage is expected to be about the same as that of last year with harvesting operations starting about October 18th. It will be possible to use mechanical harvesters in most of the fields in his district.

West Baton Rouge Parish. From West Baton Rouge Parish A. E. Camus reports that, while some improvement has been shown by the cane crop in his district since the storm, it still looks to be about 60 per cent less than that of last year. It will be possible to use mechanical harvesters in most of the fields. Harvesting operations will begin about October 20th.

Iberville Parish. R. J. Badeaux, Jr., advises us that the canes have shown only slight improvement in Iberville Parish since the storm. Harvesting operations are scheduled to begin about October 13th and it will be possible to use mechanical harvesters in most of the fields. The cane crop now appears to be between 20 and 25 per cent under that of last year. Mr. Badeaux states that planting operations in his district are generally from two to three weeks late.

Vermilion Parish. There has been no change in the crop prospects in Vermilion Parish, according to a report from J. D. Sobert, and the cane tonnage is still expected to be about 50 per cent under that of last year.

St. Charles Parish. A. J. Melancon, Jr., reports the situation in St. Charles Parish as about unchanged since the storm with the crop still indicating a yield 35 per cent under that of last year. Mr. Melancon expects harvesting operations in his district to begin about the 13th of October and reports the labor situation as just fair. Some farms have enough labor but few are a little short.

THE MARKETS

The future market has shown a slight endency to strengthen since our re- ort at the close on September 26th ut trading has been light and con- ined mainly to the nearest month which s May 1948. The trade has been keep- ng a close watch on developments in Vashington where the refiners and the C.C.C. have been discussing prices for Government owned sugar but no new levelopments have been reported up o today (October 10th). The purchase f 400,000 tons of raw sugar by the U. S. Army for distribution in Germany, Korea, and Japan, announced on Octo- ber 6th, served to bolster the market.

May 1948 futures closed today (Fri- day, October 10th) at 5:17, which is 13 points up from the close two weeks ago; July closed 5.17, 13 points up; Septem- ber 5.18, 14 points up and December 1948 5.22, up 16 points.

Two sales of actual sugars were re- ported. The first was on October 7th and consisted of 20,000 bags of Cubas for January 1948 shipment at 5.25 C.I.F. equal to 6.00 duty paid, to a refiner in the northeast, and the sec- ond was for 3,000 tons of Cubas for February-March delivery to a New Or- eans refiner at 5.13 delivered, equiva- ent to 5.88 duty paid.

There have been no spot sales of Louisiana raws and prices remain nomi- ally unchanged at the 6.32 ceiling.

A sale of *new crop blackstrap mo- asses* was reported on October 6th at 3 cents a gallon in bulk f.o.b. planta- ion.

Receipts of offshore sugars during he two week's period amount to 121,- 24 bags of Cuban raws and 85,314 ags of raws from Puerto Rico which s a decided reduction from the pre- ious two week's period when 211,235 ags of Puerto Rican raws and 208,489 ags of Cuban raws were reported.

Refined sugar list prices have re- ained unchanged at 8.40 in New Or- eans and 8.35—8.40 in New York.

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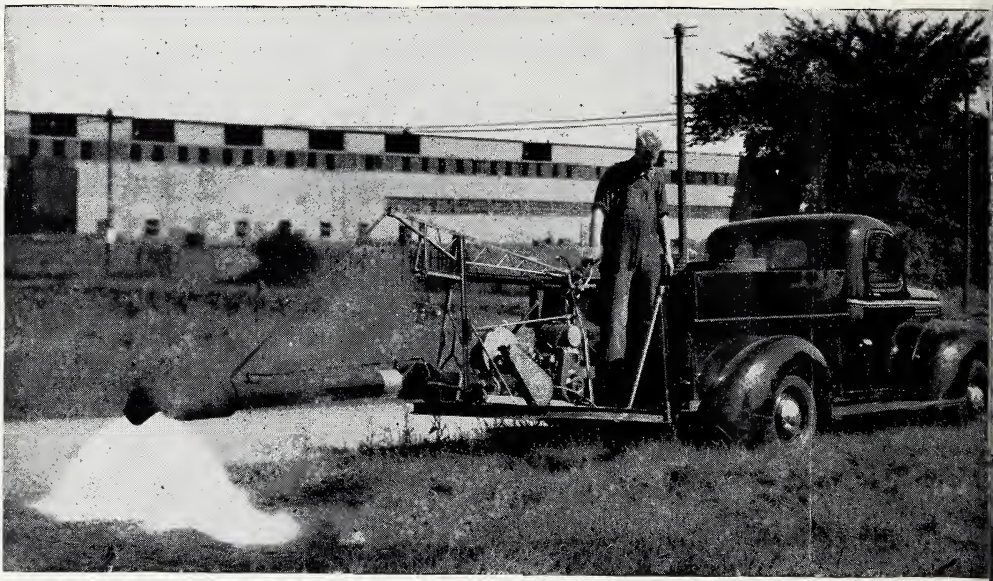

The above picture shows the Model "A" mounted on circular track which, in turn is bolted to truck body floor for straight-away burning. When so mounted the burner unit can be swung through an arc of 180 degrees by the operator. The lower picture with the same mounting shows the burned set at an angle with a special burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a dense high velocity, intensely hot flame which sears green vegetation quickly. Under average conditions the first trip can be made at about 8 m.p.h. and the second trip, which should be made from 2 to 10 days later after the sun has dried the vegetation, the speed may be much faster—10 to 15 m.p.h.

The Model "A" burning a swath 5 feet wide at 8 m.p.h. consumes 8 gallons of fuel oil per mile. At 5c per gallon the cost would be 40c. Burning one acre at the same speed consumes 13 gallons of fuel oil; at 5c per gallon the cost would be 65c.

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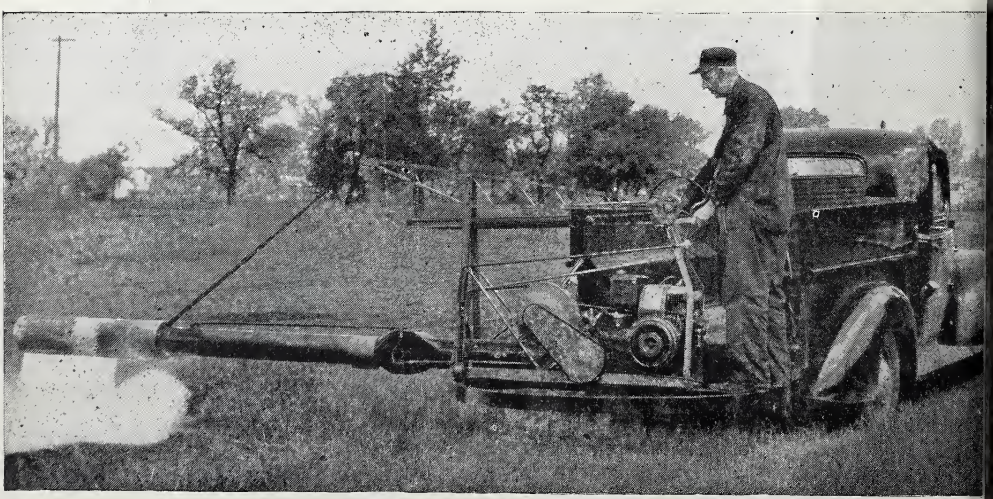

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THE SUGAR BULLETIN

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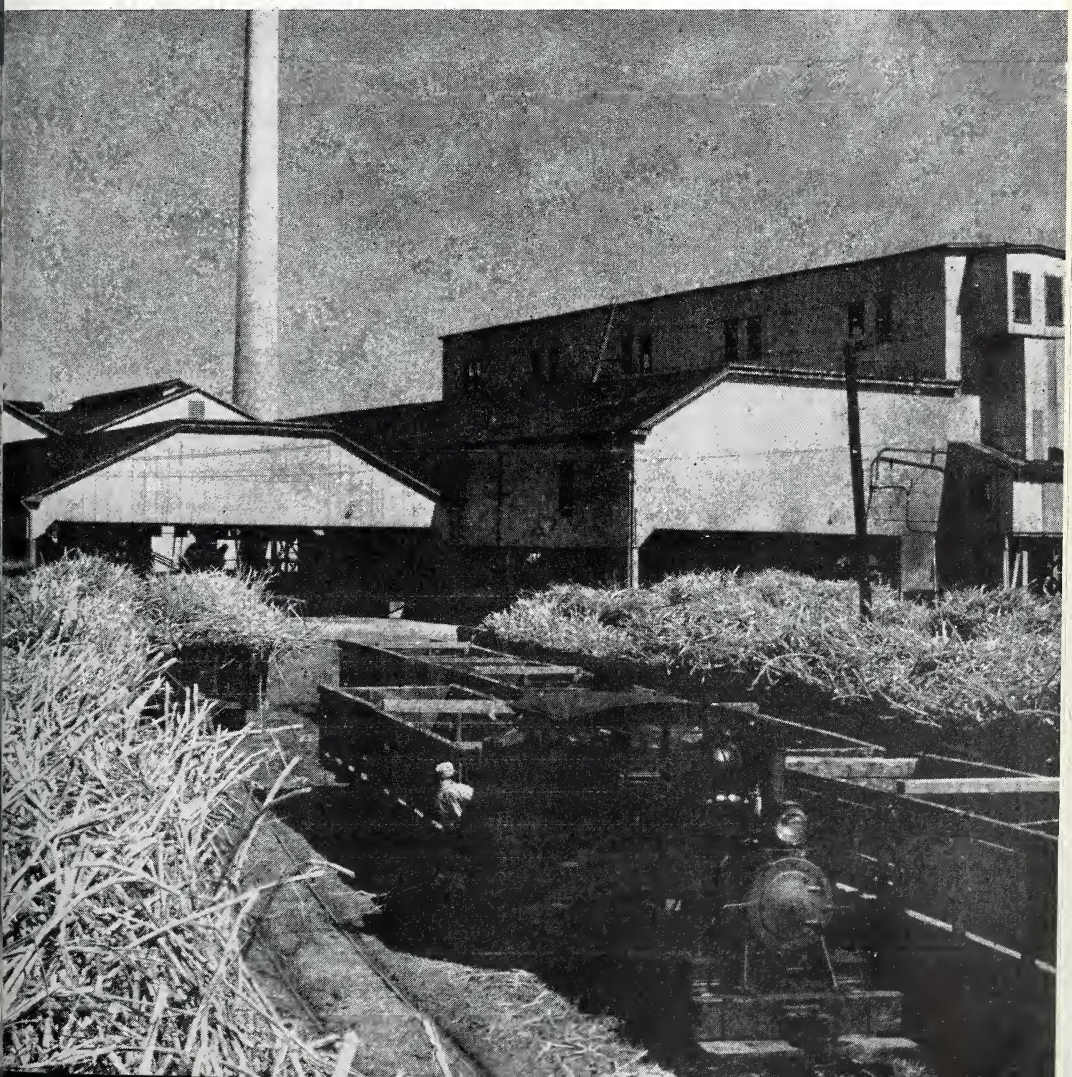
. 26 NEW ORLEANS, LA., NOVEMBER 1, 1947 No. 3



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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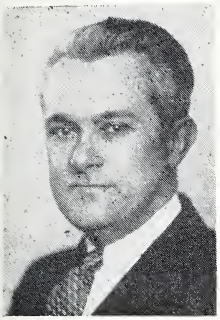
Each producer of sugarcane may obtain tax-exempt sugar from the processor to whom he delivers his cane of the 1947 crop, under the Sugar Acts of 1937 or 1948 and Tax Regulations 99 of the Treasury Department.



MR. BOURG

There are only two limitations on the amount, namely:

(1) "The manufacturer may deliver to the producer an amount of manufactured sugar not in excess of the amount which would have been manufactured from the particular quantity of sugar beets or sugarcane the producer has delivered to the manufacturer"

(2) "The tax exemption applies only to the sugar to be used 'for consumption by the producer's own family, employes, or household'"

Form 2 (Sugar) of the Treasury Department must be signed by each producer. These forms may be obtained by applying to your processor, who has or will obtain them from his district office of the Bureau of Internal Revenue.

Rationing having been ended, the old regulations limiting the amount of sugar to 25 lbs. per person or per acre, no longer apply.

Research Projects Approved

The Department of Agriculture has announced several projects under the Research & Marketing Act of 1946, which are of direct interest to sugar producers.

Research is being planned in the hope of solving the problem of maintaining the sugar content and quality of harvested sugarcane and sugar beets during the time between the actual harvest and the actual processing. The delays between the cutting of cane and the grinding at the mill, particularly when the cane is stored in piles, has resulted in respiration which burns up sugar, as well as deterioration which causes heavy losses in the sugar content. The work on sugarcane will be carried on through the Federal Experiment Station at Houma. Scientists will appraise varieties and methods of culture, fertilizing, and handling for their relation to keeping quality.

A general study has been authorized to determine the economic effects of farm mechanization. Special studies are to be made of different crops and a sub-project on sugar beet mechanization is being started among the first.

The Bureau of Agricultural Economics has been authorized to begin a study as to the extent of the use of corn sugar and syrup (dextrose) as sweetening agents in comparison to the use of cane and beet sugar (sucrose). In carrying out the project, Government and trade sources will be used for statistics on production and use by types of industries for dry and liquid sucrose and corn sugar and syrup.

In the search for new industrial uses for sugar, the Eastern Regional Research Laboratory has developed a new product known as "allyl sucrose" for finishing furniture, wall coverings and woodwork used in homes, hotels and restaurants. Further studies have been authorized to develop a resultant protective and decorative coating for wood or metal, or as an impregnant for wood, paper, and similar materials. It opens a new field for possible derivatives of sucrose which should prove beneficial to the industry.

Weed control is certainly a major problem for sugar plants, and the Research & Marketing Administration has approved of an across-the-board project to develop methods of controlling weeds in different parts of the country and with respect to different crops. General research on herbicides such as 2, 4-D and their effect on plants will be conducted and enlarged. Under this project, it is hoped that the major weed problems of the country can be considered on an organized regional basis in cooperation with State Experi-

ment Stations. Work will be conducted on the development of mechanical cultivating, spraying, flaming, and electrical equipment. The project will make it possible to initiate studies on weeds which are major problems in areas where research has not been as extensive as desired. The funds allocated for weed control will become available immediately and larger amounts are being requested for a progressive expansion of this work affecting all farmers, whatever they may produce. It is the hope of the Bureau of Plant Industry that work already begun may be expanded and extended quickly in order to include the weeds which are particularly harmful to sugarcane.

TRASH DEDUCTIONS

The letter printed below which sets forth the rules governing trash deductions, known as 1947 *Sugar Mill Letter No.* 4, *was mailed on October* 17*th by Mr. L. A. Mullins, State Director of the Production and Marketing Administration, to all Louisiana sugar mills.*

For the sake of uniformity in reporting and a thorough understanding of the responsibility of growers and processors alike in the matter of delivering sugarcane with excessive trash to sugar mills processing sugarcane for sugar, it is deemed advisable at this time to outline a procedure to be followed by all mills with respect to the trash situation.

While trash deductions are optional with the processor, it is hoped that no processor will accept sugarcane containing excessive trash without making proper weight adjustments; because, if there is a wide discrepancy between sugar actually recovered and that determined to be commercially recoverable for benefit payment purposes, as was the case at the end of the 1946 crop, it may become necessary to amend the recoverable sugar formula to correct the inequity. In this event, the processor who does not make trash deductions will be penalizing the grower who delivers clean cane and, at the same time, all other growers to the extent that trash (not deducted) is reported to the State Office as sugarcane.

In accordance with the above, the following procedure will govern:

1. Processors may make trash deductions of all trash in excess of 3% of the gross weight of sugarcane delivered for processing into sugar.
2. Processors who make trash deductions shall make such deductions on all deliveries; however, within reasonable limits, sugarcane which in the opinion of the processor may have *slightly* more or less than 3% trash may be considered to have no more than 3% and need not be tested.
3. Processors who make trash deductions on purchased sugarcane shall also make such deductions on their own sugarcane.
4. Deductions for trash shall be based on tests made by weighing the sugarcane sample before and after cleaning.
5. Trash deductions will be based on the simple average of each grower's daily deliveries.
6. All mill reports will be based on the gross weight of sugarcane delivered, that is, before trash deductions. Payment by the mill and benefit payments will be made on the net weight, that is, after trash deductions.
7. Sucrose tests for payment purposes will be made on sugarcane as delivered; except that on rainy days, the sugarcane selected for testing on the handmill shall be wiped dry with a towel, or otherwise dried before milling. If the test is made on the big mill, proper adjustments will be made for excess water.
8. Sugarcane tops will not be considered as trash unless they are found loose in the grabbed sample.
9. Processors may refuse to accept sugar cane that has not been properly cut or cleaned but such refusal shall not be used as a bargaining point for paying less than the sugarcane is worth.
10. Growers may have the privilege of witnessing all tests made for

trash when practicable.

11. All trash deductions are subject to review by representatives of the State PMA Office.
12. All processors will make a trash report at the end of the crop showing gross weight of sugarcane delivered, gross weight of trash, weight of trash deductions, and net actual sugarcane delivered.

For the sake of uniformity in reporting trash deductions and the keeping of sugarcane and trash records, the following is suggested as a guide:

1 Gross Wt. Sugarcane, Tons	2 Total Trash %	3 Weight of Trash Deducted, Tons	4 Net Weight Sugarcane, Tons	5 Sucrose N.J. Percent	6 Conversion Factor	7 Converted or Standard Sugarcane, Tons

The following will explain the items to be entered in the various columns given above:

Column 1—Enter the gross weight of sugarcane.

Column 2—Enter the percentage of trash as determined by test. If, in the opinion of the processor, the trash content is approximately 3%, enter 3%.

Column 3—Enter the amount obtained by multiplying the amount entered in Column 1 by the percentage shown in Column 2, *less* 3%.

Column 4—Enter the amount obtained by subtracting the amount shown in Column 3 from the amount shown in Column 1.

Column 5—Enter the normal juice sucrose corresponding to the weight of sugarcane shown in Column 1.

Column 6—Enter the conversion factor corresponding to the normal juice sucrose shown in Column 5.

Column 7—Enter the amount obtained by multiplying the amount entered in Column 4 by the conversion factor shown in Column 6.

If there are any questions in connection with the above, please communicate with Mr. W. M. Grayson, Chief, Sugar Division, ouisiana State Office.

L. A. MULLIN,
State Director"

FAIR AND REASONABLE PRICES OF THE 1947 CROP OF LOUISIANA SUGARCANE

TITLE 7—AGRICULTURE
CHAPTER VIII
PRODUCTION AND MARKETING ADMINISTRATION
(Sugar Branch)
Part 802—Sugar Determinations

Pursuant to the provisions of Section 301(d) of the Sugar Act of 1937, as amended, and after investigation and due consideration of the evidence obtained at the public hearing held at New Iberia, Louisiana, on July 26, 1947, the following determination is hereby issued:

§802.22s. *Fair and Reasonable Prices for the* 1947 *Crop of Louisiana Sugarcane.* (a) *Basic Price.* When the price of 96° raw sugar, duty-paid basis, is 3.50 cents per pound, the basic price for the 1947 crop of Louisiana sugarcane shall be not less than $1.00 per ton of standard sugarcane for each 1 cent of the average price per pound of raw sugar determined in accordance with whichever of the following options is agreed upon:

(1) the average of the weekly quotations of 96° raw sugar, duty-paid basis, on the Louisiana Sugar and Rice Exchange and the Cane Products Trade Association Exchange for the week in which such sugarcane is delivered; or (2) the simple average of the weekly quotations of 96° raw sugar, duty-paid basis, on the Louisiana Sugar and Rice Exchange and the Cane Products Trade Association Exchange for the weeks from Friday, October 3, 1947 (or the

Friday within the first marketing week of actual trading), to January 30, 1948, except that if the Director of the Sugar Branch finds that for any week or weeks such weekly averages do not reflect the true market value of sugar, because of inadequate volume or other factors, the Director may designate the weekly and seasonal prices to be effective under this determination:
Provided however,

(i) That for each decline of ¼ cent in the price of 1 pound of 96° raw sugar, duty-paid basis, below 3.50 cents per pound, the price of standard sugarcane shall be reduced by not more than 3 percent, with intervening prices in proportion, unless the price of sugar falls below 2.75 cents per pound, in which case no further reduction shall be made; and

(ii) That for an advance of ¼ cent in the price of 1 pound of 96° raw sugar, duty-paid basis, above 3.50 cents per pound, the price of standard sugarcane shall be increased by not less than 3 percent, with intervening prices in proportion, unless the price of raw sugar exceeds 3.75 cents per pound, in which case settlement shall be made on the basis of $1.03 for each 1 cent of the price.

(b) *Standard Sugarcane.* Standard sugarcane shall be sugarcane containing no more sucrose in the normal juice than was defined as standard sugarcane by the processor in his sugarcane purchase contract, or contracts, verbal or written, used in the year 1946:
Provided however,

(1) That the premiums applicable to sugarcane of the 1947 crop containing more sucrose in the normal juice than standard sugarcane shall be not less than those applicabe to the 1946 crop; and

(2) That the discounts applicable to sugarcane of the 1947 crop containing less sucrose in the normal juice than standard sugarcane shall be not greater than those applied to the 1946 crop.

(c) *Molasses Bonus.* On each ton of Louisiana sugarcane there shall be paid a molasses bonus, such bonus to be computed by taking ½ of the excess, if any, of the average price per gallon of blackstrap molasses (as quoted by the Exchanges set out above for the period there specified) over 8 cents, and multiplying the product by 6½ (the number of gallons of blackstrap molasses produced per ton of sugarcane as an average for the three-year period, 1938-1940).

(d) *General.*

(1) Deductions based upon decreased boiling house efficiency may be made for frozen sugarcane accepted by the processor (it being understood that cane shall not be considered as frozen even after being subjected to freezing temperature unless and until there is evidence of damage having taken place because of the freeze) at a rate not in excess of 3.775 percent of the payment computed without regard to the molasses bonus, for each 0.25 cc. of acidity above 2.25 cc. but not in excess of 4.50 cc. (analyzed in accordance with the established methods of the area, with intervening fractions computed to the nearest multiple of 0.05 cc.).

(2) Costs of hoisting and weighing sugarcane, which were absorbed by the processor in 1946, shall be absorbed by the processor in 1947; but nothing in this subparagraph shall be construed as prohibiting negotiations with respect to the level of such costs, subject to review by the Secretary of Agriculture or his authorized agent, upon appeal, in the event of changes alleged to be unfair to either the producer or the processor.

(3) Where the only available practicable means of transportation are rail facilities and the distance to the nearest factory is in excess of 50 miles, the cost of transportation may be shared by the processor and the producer, by mutual consent, subject to review by the Secretary of Agriculture or his authorized agent, upon appeal.

(4) The processor shall not reduce the returns from the 1947 crop of Louisiana sugarcane to the producer below those determined above through any subterfuge or device whatsoever.
(Sec. 301, 50 Stat. 909; 7 U.S.C. 1131)

Issued this 24th day of October, 1947.

/s/ CLINTON P. ANDERSON
Secretary

LOUISIANA LEADS THE WORLD in the mechanization of the cane sugar industry. Pictured above is the Longman Rotary Hoe mounted on a chopper. This machine can also be used on the chopper to off bar, and with row plow when off barring. It is manufactured by the St. Mary Iron Works of Franklin, La.

CUBAN CONTRACT AMENDED

The U. S. Department of Agriculture has announced that the Commodity Credit Corporation and representatives of the Cuban Sugar Stabilization Institute have agreed upon an amendment to the U. S.-Cuban 1946-1947 Cuban Sugar Crops Purchase and Sale Contract.

The principal features of the amendment are:

1. Commodity Credit Corporation will pay a final average settlement price of 4.9625 cents per pound for all 1947-crop Cuban raw sugar (free alongside ship, Cuban ports).
2. The Cuban Sugar Stabilization Institute will notify CCC by October 17 regarding the amount of "local consumption" and "free export" sugar, previously reserved by Cuba which will be delivered to CCC.
3. Commodity Credit Corporation agrees to purchase about 53,000 additional short tons of Cuban refined sugar. This quantity, already refined, is a part of the total amount of "free export" sugar being released.
4. Commodity Credit Corporation agrees that—with minor exceptions—all Cuban 1947-crop sugar it purchases and which is destined for consumption in the United States will be imported into the United States prior to January 1, 1948, in order not to be charged against the 1948 import quota from Cuba.

Part of the additional sugar made available to CCC under the new amendment to the Cuban contract—including all the 53,000 short tons of additional refined sugar, is being offered to foreign governments and the trade at a price of approximately 6.46 cents per pound, refined basis free alongside ship, Cuban ports. Prospective buyers must furnish CCC an irrevocable letter of credit and make the other necessary financial arrangements for the quantity of sugar they propose to purchase.

The Department also announced that it is currently notifying the International Emergency Food Council that the Department has agreed to sell about 484,000 short tons of Cuban raw sugar to the Army for use in occupied areas of Japan, Korea and Germany. This 484,000 tons is in addition to 127,000 tons previously allocated to the Army for use in Japan and Korea. Sugar being shipped to these occupied areas from the west coast of the United States has been or is being procured under the previous allocation of 127,000 tons.

The Department emphasized that there are no restrictions on the quantity of raw sugar which can be brought into the United States by CCC prior to January 1, 1948. If, at any time, it appears that the quantity of raw sugar which will be required by U. S. refiners prior to January 1 will be either greater—or less—than the quantity designated for this purpose by the IEFC, the Department's sales to other areas can be decreased or increased accordingly.

CANE DISTRIBUTION COMPLETED

The job of distributing the newly released cane varieties, C. P. 34-92, C. P. 36-19 and C. P. 36-183 was completed by the American Sugar Cane League on September 26th and the work of compiling lists from the distributing plots is almost completed at this writing.

Demand for the new varieties was considerably less than has been the case in previous years. This is attributed to the fact that the description of the canes which accompanied their release did not indicate that they offered much of an improvement over canes already being grown.

A summary of the distribution shows that 192½ tons of C. P. 34-92, 222 tons of C. P. 36-19 and 255 tons of C. P. 36-183 were purchased by individual growers and that 12¼ tons of C. P. 34-92, 10¼ tons of C. P. 36-19 and 12 tons of C. P. 36-183 were distributed through the county agents free of charge at the rate of ten stalks to each grower.

HARVESTING WAGES

We print below the official determination covering fair and reasonable wage rates for harvesting the 1947 *crop of sugarcane in Louisiana as it appeared in the Federal Register of October* 16*th on page* 6782.

PRODUCTION & MARKETING ADMINISTRATION (SUGAR BRANCH)

PART 802 — SUGAR DETERMINATIONS

Fair and Reasonable Wage Rates for Harvesting 1947 Crop of Sugarcane in Louisiana

Pursuant to section 301 (b) of the Sugar Act of 1937, as amended, and after investigation and due consideration of the evidence obtained at the public hearing held in New Iberia, Louisiana on July 26th, 1947, the following determination is hereby issued:

802.24*bb Fair and reasonable wage rates for harvesting the* 1947 *crop of sugarcane in Louisiana.* The requirements of section 301 (b) of the Sugar Act of 1937, as amended, shall be deemed to have been met with respect to the harvesting of the 1947 crop of sugarcane in Louisiana, if all persons employed on the farm in the harvesting of such crop shall have been paid in full for all such work and shall have been paid wages in cash therefor at rates as follows:

(a) *Wage rates agreed upon between producer and laborer.* The wage rates agreed upon between the producer and the laborer but in no case less than the rates prescribed under paragraphs (b), (c), and (d) of this section.

(b) *Adult males or adult females when employed on a time basis.*

Operation	Per day of 9-hours	Per hour
(1) Cutting, topping, stripping:		
Adult males	$3.50	$0.39
Adult females	3.05	.34
(2) Loading	4.15	.47
(3) Cutting and loading	3.70	.42
(4) Tractor drivers and truck drivers	4.25	.48
(5) Teamsters	4.05	.45
(6) Hoist Operators	3.70	.42
(7) Operators of mechanical loading or harvesting		

equipment	4.60	.52
(8) Pilers	3.70	.42
(9) Grabmen, spotters, ropemen.	4.15	.47
(10) Scrappers	3.50	.39
(11) Any other operation connected with harvesting...	3.05	.34

(c) *Workers between 14 and 16 years of age when employed on a time basis.* For workers between the ages of 14 and 16 years, the rate per day of 8 hours (maximum hours per day for such workers without deduction from Sugar Act payments) shall be not less than three-fourths of the applicable rate established under paragraph (b) of this section for adult male workers for a 9-hour day. For a working day shorter than 8 hours, the rate shall be in proportion.

(d) *All workers when employed on a piece work basis.*

Operation	Rate per ton: Large barrel varieties[1]	Rate per ton: Small barrel varieties[1]
(1) Cutting top and bottom, and stripping	$1.50	$1.80
(2) Cutting top and bottom	1.00	1.20
(3) Loading	.44	.53
(4) Cutting top and bottom, stripping and loading	1.94	2.33
(5) Cutting top and bottom, and loading	1.44	1.73

(6) The piece rate for any operation specified above when performed on a unit basis other than a ton unit, or the piece rate for any operation not specified above, shall be that agreed upon between the producer and the laborer: Provided, however, That the hourly rate of earnings of each worker, for the time involved, shall be not less that the applicable hourly rate specified in pars. (b) or (c) of this section.

[1] Large barrels varieties shall include: C. O. 290; C. P. 29/103; C. P. 29/116; C. P. 33/243; C. P. 36/13. All other varieties shall be classed as small barrel.

(e) *General provisions.* (1) In addition to the foregoing the producer shall furnish to the laborer without charge the customary perquisites, such as a habitable house, medical attention, and other customary incidentals.

(2) The producer shall not reduce the wage rates to laborers below those determined herein through any subterfuge or device whatsoever. (Section 301.50 Stat. 909; 7 U. S. C. 1131).

Issued this 13th day of October, 1947.

(Seal) Clinton P. Anderson,
Secretary of Agriculture

(F. R. Doc. 47-9279; Filed, Oct. 15, 1947; 8:46 a. m.)

Your County Agent Reports

The Sugarcane Industry In Terrebonne Parish by Richard F. Sonnier, County Agent.

For generations the production of sugar cane has been the main cash crop of Terrebonne Parish. The climate, soil, farm equipment and the experience of farmers and farm laborers make it ideal to the growing and processing of sugar cane.

The present acreage of sugar cane is approximately 22,000 acres with a potential acreage of about 36,000. The income from the sugar crop is estimated at $3,000,000 farm value, and $4,000,000 manufactured value which indicates the importance of the crop for the people of Terrebonne Parish.

With a parish drainage program now assured for this parish one of the major problems to cane growing in Terrebonne will be solved. This will mean increased yield per acre and increased acreage of sugar cane in Terrebonne Parish.

Even with the drainage problem solved farmers in Terrebonne can still increase the yield of cane per acre by giving more attention to the following practices. First follow the variety planting according to soil types as recommended by the experiment station. Second, follow better planting methods. Third, better fertilization and fourth, plant more winter legumes.

The trends of sugar production in Terrebonne does not differ from that of most other sugar cane producing parishes in that the number of farms are reducing and size of farms are increasing with more and more mechanization of the farm operations.

The people of Terrebonne Parish may look back to the "Golden Era" of sugar enjoyed by their forefathers, but they still have an even brighter outlook for the future when sugar may bring even greater prosperity to the Parish.

LOUISIANA STATE UNIVERSITY LIBRARY

The Louisiana grinding campaign is off to a slow start this year because of the retarded growth of the cane crop but the following reports from the county agents, showing the results obtained through October 25th, should be very interesting to our readers. We again want to publicly thank the county agents throughout the sugar belt for their cooperation in supplying us with this information.

Ascension Parish. Grinding operations began in Ascension Parish on October 20th and E. S. Landry, County Agent, reports that the canes are averaging anywhere from 13 to 24 tons to the acre. There is also a wide range in sucrose which has tested from 9.80 to 14.35 with an average of 11.42 percent. The purity is ranging between 65.6 and 75 percent.

Assumption Parish. Moore Valois reports from Assumption Parish that grinding in his district began generally on October 20th. Harvesting operations to October 24th showed the canes averaging about 16 tons to the acre with the sucrose ranging between 10.5 and 12.5 percent, and testing in purity between 62 and 68 percent.

Terrebonne Parish. On October 24th Richard Sonnier, county agent of Terrebonne Parish, advised us that grinding operations in his Parish started on October 16th, with the cane tonnage running only about 14 tons to the acre. The sucrose thus far is between 10.5 and 12 percent with purity between 65 and 75 percent.

Avoyelles Parish. Grinding operations in Avoyelles Parish will not get under way until November 1st and Kermit J. Ducote, county agent, was not able to answer our questions.

West Baton Rouge Parish. A. E. Camus, County Agent of West Baton Rouge Parish, writes that we made a mistake in reporting the crop in his district in the last issue of *The Sugar Bulletin*. We stated that the cane crop in West Baton Rouge Parish was 60 percent less than that of last year when the estimate should have been about 40 percent. Conditions have improved in recent weeks and the crop now appears to be only about 30 percent under that of last season. The Catherine and Poplar Grove mills started grinding on October 22nd and Smithfield and Cinclare started the following day. The sucrose content of the canes is averaging above normal.

St. Charles Parish. From St. Charles Parish A. J. Melancon, Jr., advises that grinding operations began on October 25th with the canes averaging about 15 tons to the acre and testing between 11.5 and 12.5 percent in sucrose. Mr. Melancon says that in general the canes are yielding less per acre than was the cane last year.

Pointe Coupee Parish. The report from A. B. Curet, County Agent of Pointe Coupee Parish, states that harvesting operations began in his district on October 20th with the canes producing between 14 and 16 tons to the acre. The range in sucrose is between 12 and 13 percent and the purity is between 76 and 77 percent.

St. James Parish. Joseph Lamandola advises that grinding began in St. James Parish on October 20th and that the canes are averaging about 16 tons to the acre. The sucrose content in running between 11 and 11.5 percent with the purity between 70 and 74 percent.

St. John Parish. Otis J. Broussard reports from St. John Parish that grinding operations began in his district on October 27th with the canes averaging between 18 and 20 tons to the acre. The sucrose is running between 11.5 and 12 percent and the purity is between 81 and 82 percent. Mr. Broussard says that the sucrose is not as high as expected.

Iberia Parish. W. E. Williams reported on October 24th from Iberia Parish that the Duhe & Bourgeois mill started grinding on October 21st but that the five other mills in his territory will not get under way until November 3rd or 4th. The Loisel mill, damaged by fire during the summer, will not operate this year. The tons of cane per

acre reported thus far seem to be between 13 and 16 tons, with the sucrose in the New Iberia area ranging between 11 and 12.5 percent, and in the Jeanerette area between 9 and 11.5 percent. The first reports on purity were between 68 and 73 percent but on October 24th this had improved to between 75 and 80 percent. Mr. Williams also reports that showers have occurred in local areas during the past week but that no general rains have fallen. Fall planted cane is coming up to a good stand in most sections.

Lafourche Parish. From Lafourche Parish A. C. Moreau advises that grinding began there on October 15th and that all the mills in his district are expected to be working by October 29th. Cane tonnages are running anywhere from 12 to 24 tons to the acre with the sucrose about 11.75.

St. Landry Parish. No mills are operating in St. Landry Parish this year but A. K. Smith, Jr., County Agent, reports that cane deliveries will begin about the 27th of October. The indicated yield of cane per acre is about 16 tons and field tests show a sucrose content of between 11.5 and 12.5 percent.

THE MARKETS

The sugar markets have shown decided strength during the past two weeks continuing the trend reported in our October 15th issue. The refiners have extended their contract with the C.C.C. until November 17th and the C.C.C. has agreed to settle for the 1947 Cuban crop at 4.9625 cents per pound f.o.b. Cuba. In addition to this our Government has purchased all surplus Cuban sugar that was originally reserved for local consumption in the Island and for sale to other countries, and has decided to use most of this for relief purposes in Europe and the Far East. These developments have removed most of the uncertainty that depressed the markets earlier and have apparently restored confidence in the future.

Another rather unexpected development has been the continued heavy buying by what the market commentators call "the housewife trade" who seem to be convinced that sugar prices are going to soar when controls are removed on October 31st. The concensus of expert opinion in this connection however, is that there may be a slight increase in the retail price of refined sugar in small packages due to the higher costs of the bags and hauling but that there is no indication at this time of any general advance in refiners' list prices.

Trading in the future market excellerated sharply during the period under discussion and sales jumped from an average of about 50 lots a day to well over 150 lots. On October 23rd, 523 lots were sold and the transactions on the 24th totaled 355 lots. Today (October 27th) the total sales amount to 190 lots. May 1948 has continued to be the big trading month.

Closing quotations on October 27th, today, show May at 5.37, up 20 points since our last report; July 5.39, up 22 points; September 5.40, up 22 points; and December 5.43, up 21 points. It is interesting to note that March 1949 is quoted at 5.15 (Remember that to get the equivalent price of these sugars delivered you add the Cuban tariff of 75 cents to the future market quotations).

Philippine sugars are back in the market for the first time since the War and two sales of Philippine raws have been reported. The first was on October 22nd and consisted of 1,000 tons for November-December shipment at 6 cents delivered, and the second was on the following day for 1,500 tons for the same delivery at 6.10 cents a pound. Since that time no sales have been reported and we understand that sellers are holding back awaiting developments.

There have been no spot sales of Louisiana raws and the local quotation has remained unchanged at 6.32. Trade reports indicate that there is very little Louisiana raw sugar that is not under contract and it is possible that there will be no sugar sold on the spot market this season.

Five sales of Louisiana blackstrap molasses were recorded. The first of

these was on October 25th at 25 cents a gallon in bulk f.o.b. plantation. This was followed on the same day by a sale at 26 cents a gallon and by three additional sales at 26 cents on October 27th.

Weekly average prices since the start of the grinding season, as issued by the Cane Products Trade Association, have been as follows:

For the week ending October 9th.
Raws 6.32. Blackstrap 23 cents.

For the week ending October 16th.
Raws 6.32. Blackstrap 23 cents.

For the week ending October 23rd.
Raws 6.32. Blackstrap 25 cents.

Refined sugar lists have remained unchanged at 8.40 in New Orleans and 8.35-8.40 in New York. Offshore refined is available in cotton bags at 8.35. All beet processors are firm at 8.30.

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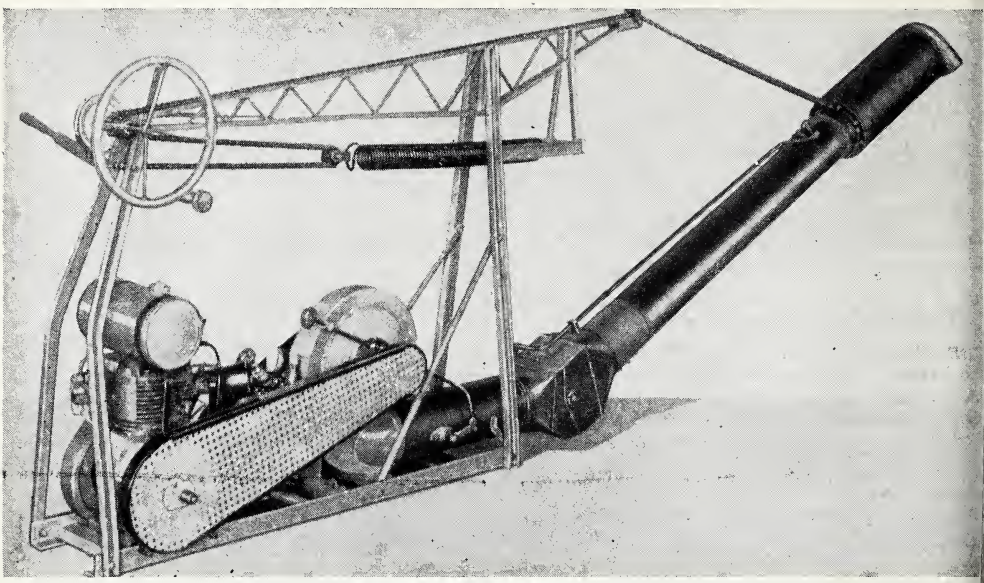
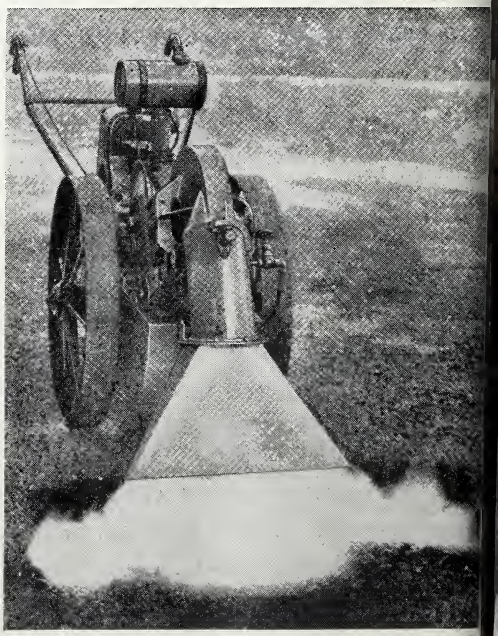


Model "A" Woolery Junior Weed Burner Unit

The Model "A" shown above burns a swath 5 feet wide and has a wide range of adap tability. It may be mounted on a Railroad push car to be towed by a motor car or i can be mounted on a truck, tractor or trailer car and used for burning along high ways, fences, canal banks, irrigation, ditches, etc.

The Model "D" is a self-propelled unit built on an angle steel frame and mounted on a two-wheel chassis with either steel or rubber tires. It is especially adapted for flame cultivation between crop rows on sugarcane and pineapple plantations. Shields are provided on each side of burner hood and are adjustable. They can be swung in and out, raised and lowered, so as to give positive control of flame to prevent injury to crop plant. The entire space up to six feet between crop rows can be flamed by making one trip.

Its use is not restricted to weed burning alone, as it provides an efficient means for dusting cotton crops, spraying fruit orchards, potatoes or any other crops that come within this category.



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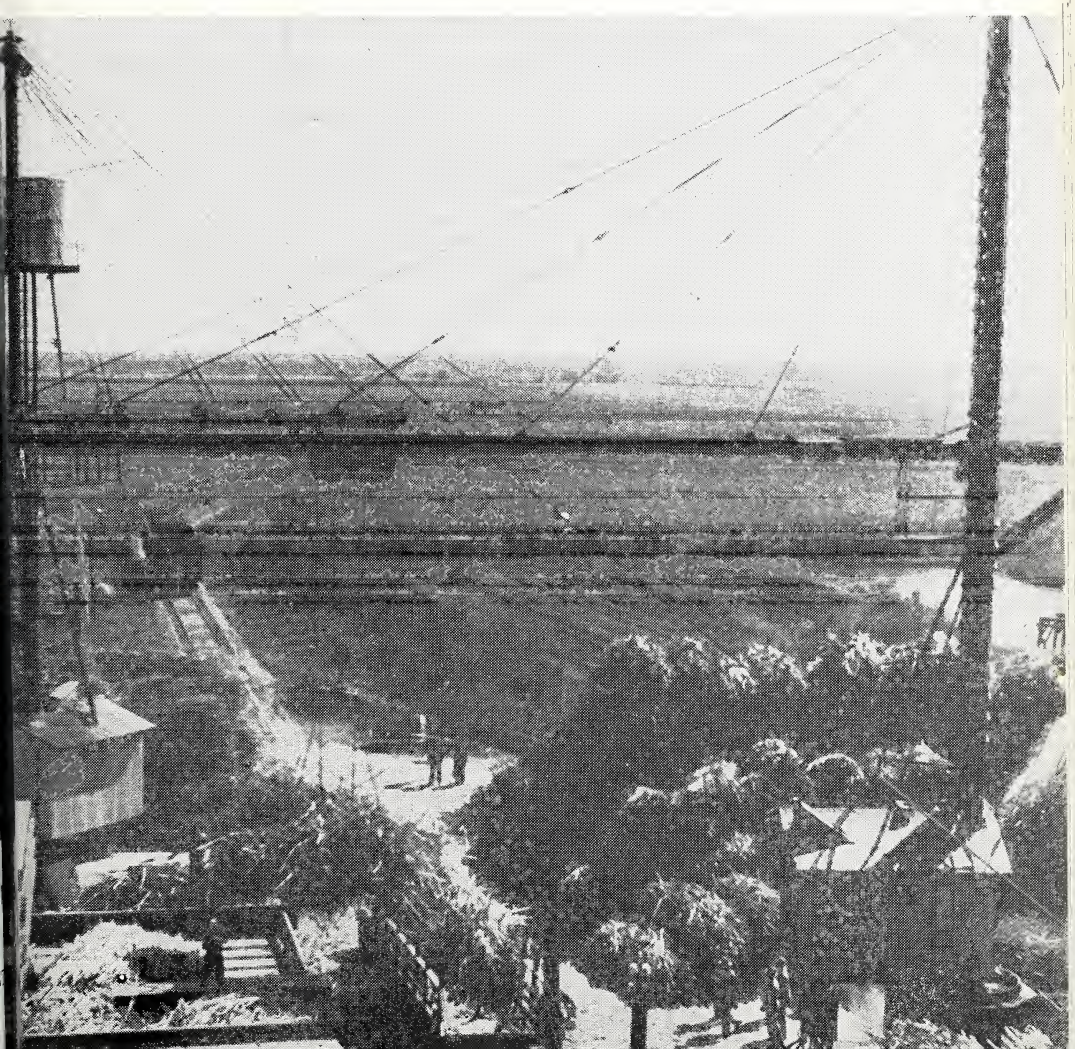
26 NEW ORLEANS, LA., NOVEMBER 15, 1947 No. 4



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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IN WASHINGTON WITH C. J. BOURG

THE date proposed by Louisiana as proper and safe for the decontrol of sugar price ceilings and rationing—October 31—has arrived and passed without disturbing incident. A reasonable time having elapsed to permit observation as to the immediate effect on the market, the American Sugar Cane League has no reason to regret its proposal of the date. At the time the legislation was before Congress last Spring, Louisiana stood alone in its insistence that the sugar supply and demand situation would be sufficiently definite in October to assure an accurate decision to be made during that month with regard to decontrol. We were welling to leave the matter discretionary with the Secretary of Agriculture, provided any further extension would have to be justified by a report showing that conditions in the sugar market were different in October than we had claimed they would be. Members of Congress being in the mood for ending controls early, Congress accepted the Louisiana date and adopted it as law.

We are pleased to acknowledge that Secretary of Agriculture Anderson and Sugar Branch Director Marshall have handled the progressive elimination of Government controls in an efficient manner. The purchase of the Cuban crop at a price which reflects the cost of living in the United States has facilitated the solution of problems connected with the domestic producing areas, which has included a basic price ceiling considered fair to all producers. The production of large crops in the U. S. beet area and in Cuba have served to make possible the gradual decontrol as to rationing and as to inventory limitations prior to the final elimination of price ceilings. The net result has been that the transition from Government war regulations to the relatively free enterprise under the Sugar Act, has been brought about with the smoothness of fluid gear shifting in automobiles. In fact, the recent decision of the Secretary of Agriculture to make commitments to the Army for as much as 484,000 tons of sugar from the 1947 crop, to be shipped overseas for distribution in occupied areas, constitutes a practical demonstration that in the early Fall, after the off-shore crops have been harvested, is unquestionably the most appropriate time to evaluate all angles of the sugar supply and demand picture in the U. S.

Substantial confirmation of this reasoning is contained in the statement of the Secretary-General of the International Emergency Food Council made on October 27th:

> "Because of this year's alltime record Cuban sugar crop, the world sugar situation is temporarily in rough balance at current price levels for sugar. In fact, because of the current dollar exchange difficulties, it has been possible to assign considerable quantities of sugar to the occupied areas. In the months immediately ahead, the sugar situation probably will appear relatively easy. Whether this situation will continue throughout 1948 is largely dependent upon the size of the Cuban crop and the availability of dollar exchange. No firm forecast on these matters can be made

(Continued on Page 63)

POWER DRIVEN PLANT CANE HOE DEVELOPMENT

by

M. V. Yarbrough, Young's Industries

Early in March, 1946 the writer received a catalogue and operating instructions covering Dixie Cotton Choppers, Cotton Weeders, Beet Thinners, and Beet Hoeing machines. Quiet a voluminous booklet, it was by sheer accident that I noticed the statement that Dixie Machines could hoe any row crop. Cuts of the various machines indicated that they were made for flat cultivation on narrow rows. However my interest was aroused and I immediately contacted the manufacturers of the machines and was invited to visit them in Dallas as soon as possible.

Upon arrival in Dallas I found that the Dixie Machines were manufactured in a very modern and efficient plant owned by Mrs. N. K. Leeper, President of the Corporation. Mrs. Leeper and her engineering staff were immediately intrigued with the idea of trying to develop a machine which would successfully hoe sugarcane. Within two weeks two experimental machines had been built. One of the machines was built by us at Youngsville from basic parts used in various other Dixie Machines. The other experimental machine was built by the Dixie People in Dallas none of whom had ever seen a sugarcane field. In laying out their experimental machine they worked from free hand sketches which I left with them showing profiles of a sugarcane field in various stages of cultivation.

Needless to say, both of these experimental machines were quite crude. We had made them completely flexible with all of the essential and unique Dixie features adjustable over a wide range in order to determine quickly whether or not the basic principle would successfully hoe sugarcane without destroying too much of the crop.

After a few days trial of the experimental machines at Youngsville and also at one of Mr. Foster's farms near Franklin in order to see the machine operating under widely varying soil conditions, the Dixie people returned to Dallas firmly convinced that they could build a machine which would do the job.

Within three weeks time approximately 20 machines were delivered to Louisiana plantations in the Spring of 1946. In building these machines it had been necessary to use many of the essential parts used on other Dixie machines. Sugarcane cultivation being a very heavy operation there was much doubt in the minds of everyone concerned as to whether the component parts designed for those other lighter machines could stand up to sugarcane cultivation. It was soon determined that mechanically the machines were too weak for sugarcane and the hoeing operation in 1946 was accompanied with a very considerable amount of mechanical difficulty. However the 1946 operation did convince all of us who were interested that plant cane could be hoed with power driven hoes in which the basic Dixie principles were properly incorporated. These principles are properly synchronized rotor and forward motion speeds, proper rotor tip speed and proper rotor spacing. At Youngsville in 1946 we accomplished all of our plant cane hoeing with these machines.

In November of 1946 the Dixie people requested that I return to Dallas to assist them in designing component parts which would be amply strong to give satisfactory performance in hoeing sugarcane.

As a result of two or three conferences in Dallas with the Dixie people they came up in the Spring of 1947 with the present Dixie Sugarcane Weeder.

Our Youngsville 1947 plant cane crop was layed by with these machines again without any hand hoeing and without mechanical trouble.

We knew from the outset that the Dixie Hoe, which hoes the top of the

(Continued on Page 59)

YOUR COUNTY AGENT REPORTS

The Cane Crop in Iberia Parish

by

W. E. Williams, County Agent

MR. WILLIAMS

THE 1947-48 sugarcane harvest season got under way in Iberia Parish on October 21, when the Duhe & Bourgeois mill on the outskirts of Jeanerette, La., started grinding. Other mills throughout the parish started on the following date: Iberia Sugar Coop., October 30; Orange Grove Sugar Co., Olivier, La., October 29; Vida Sugar Co., October 29; Moresi Sugar Co., Jeanerette, La., November 3; M. A. Patout & Sons, Ltd., Jeanerette, La., November 8.

The total tonnage ground by all of these mills up to November 8 was about 45,000 tons.

Loisel Sugar Co., Jeanerette, La., will not operate this year because of damages occurred by a recent fire. Sugarcane going to this factory is being diverted to other mills in Iberia and St. Mary Parishes.

In addition to the sugar mills operating, there are approximately 15 syrup mills in operation with 2 still idle.

Reports coming in from various parts of the parish indicate that cane is unusually light this year, especially 1st and 2nd year stubble. The sucrose seems to be satisfactory in the northern and western sections of the parish but is barely making standard in the southern part of the parish.

Even though Iberia Parish farmers have about 1500 acres more cane than 1946, it is estimated that the total tonnage to be used for sugar and syrup will be at least 20% less than that of 1946.

This drop in tonnage may be attributed to: A late cold spring, a severe drought during the growing season, storm damages in August, late application of fertilizer, and the using of an usually large amount of acreage to plant the 1948 crops.

Normally it is estimated that about 7% of the crop is used for planting purposes but this year probably 12% was used because the cane was so small it required more acreage than usual for planting purposes.

In most sections of the parish, the plant cane is up to a good stand and seems to be in good, healthy condition.

A light frost occurred on the morning of November 8th and it is thought that this will tend to mature cane more rapidly which gives promises of high sucrose. It will also tend to stop the growth of the fall plant cane.

Good rains have occurred in the parish during the past 10 days and this is very beneficial to the fall plant cane as well as winter cover crops.

This year farmers have planted about 6700 acres of Vetch and Austrian Winter Peas on fall plant cane.

News of Events

October 29th, 1947. Meeting of the Executive Committee of the American Sugar Cane League at 1:30 P.M. in room 317 of the Whitney Building in New Orleans. The Committee unanimously adopted the following resolutions expressing the sorrow of the Louisiana sugar industry in the loss of Mr. W. Prescott Foster and Mr. Vernon L. Caldwell:

Whereas the sugar industry of Louisiana has recently been called on to sustain the loss by death of one of its most influential, successful, and beloved members, Mr. W. Prescott Foster of the Parish of St. Mary and

Whereas the enterprises with which Mr. Foster was connected extended far beyond the borders of his own Parish and brought him into personal contact one way or another with hundreds of people engaged in sugar production and in sugar cane growing throughout South Louisiana from the Mississippi River to the fields of Acadia and from the Gulf of Mexico to the waters of the Red River and

Whereas his character was so sterling and staunch and his personality so attractive that he drew to himself the respect and the affectionate regard of all with whom he came in contact, including the thousands of members of the American Sugar Cane League, therefore be it

Resolved that we now, at the time of his death, pay him the tribute of our admiration and voice publicly our sincere and heartfelt sorrow over his departure from among us.

Whereas Mr. Vernon L. Caldwell, who for so many years headed and administered extensive cane growing and sugar manufacturing interests in the Parish of Vermilion and was a conspicuous figure in the business life of all that part of the Louisiana sugar district, has passed away at his home in Abbeville since the last meeting of the Executive Committee of the American Sugar Cane League and

Whereas Mr. Caldwell was the competent architect of a large and successful sugar manufacturing industry in his Parish where his business acumen and enterprise redounded to the material welfare of the large community in the midst of which he lived, and

Whereas the membership of the American Sugar Cane League and those engaged in sugar production and cane cultivation in Louisiana have been deprived by his death of an outstanding figure for whom they felt sincere attachment, therefore be it

Resolved—That the American Sugar Cane League deplores the departure of this friend and colleague of long standing and extends sympathy to the members of his bereaved family.

November 7th, 1947. Meeting of the Louisiana Sugar Producers' Club (Western Division) at 12:30 P.M. in New Iberia. The meeting went on record as protesting the necessity of sending daily reports to the U. S. Alcohol Tax Unit covering sales of sugar, molasses, and syrups as an unnecessary burden at this time of the year. The meeting also viewed models of a rotary cane hoe invented by Mr. Ernest Pitre of Iberia Parish and heard explanations of the hoe by Mr. Pitre and Mr. W. E. Williams, County Agent of Iberia Parish.

November 8th, 1947. The Honorable Clinton P. Anderson, United States Secretary of Agriculture, arrived at Moisant International Airport, in New Orleans at 1:00 P.M. Among those greeting the Secretary were Dr. Harold W. Stoke, President of the Louisiana State University, Dr. J. G. Lee, head of the Agricultural Department of the University and Mr. J. J. Munson, Chairman of the Legislative Committee of the American Sugar Cane League. Secretary Anderson was in Louisiana to speak at the Louisiana Sweet Potato Show and International Exposition held in Baton Rouge on November 8th.

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The Louisiana sugar belt is now getting the rains that it could have used during the growing season but that are not overly welcome at this time of the year. This just simply seems to be a bad year for the cane crop.

We have received the following reports from the County Agents in the Parishes listed below, for which we thank them.

Ascension Parish. E. S. Landry, county agent of Ascension Parish, reported on November 10th that grinding operations in his district were progressing favorably and that most of the crop is being harvested mechanically. The labor supply is adequate. The canes are now testing about 11.8 in sucrose with the purity about 76 per cent. Sugar production per ton of cane is averaging about 150 pounds. Mr. Landry states that rains on the second and sixth of November greatly benefited the planted cane.

Assumption Parish. Moore Valois reported from Assumption Parish on November 10th that grinding operations in his district were progressing favorably with most of the crop being harvested mechanically. He states that the labor supply is inadequate. The canes are now averaging about 12 per cent in sucrose and about 72 per cent in purity. Sugar production is averaging about 145 pounds to the ton of cane. Mr. Valois believes that the yield per acre for the entire crop in his Parish will average about 16 tons. The Fall planted canes have received all the rain that they need at this time.

West Baton Rouge Parish. From West Baton Rouge Parish A. E. Camus reports that grinding is progressing favorably and that most of the crop is being harvested with machines. The canes in his district are now averaging about 12 per cent in sucrose and 80 per cent in purity. He said on November 8th that the Fall planted cane still needed rain. It has probably received it.

St. John Parish. Otis J. Broussard advised us on November 8th that grinding operations in his district were progressing favorably. Most of the crop is being harvested by machines and the labor supply is adequate. The canes are averaging about 12 per cent in sucrose and 79 per cent in purity with the sugar production averaging about 150 pounds to the ton of cane. Mr. Broussard states that some of the farmers in his district are complaining of heavy trash deductions. The Fall planted canes have had enough rain.

Terrebonne Parish. On November 7th Richard Sonnier reported from Terrebonne Parish that grinding operations in his district were progressing favorably and that most of the crop was being harvested mechanically. The sucrose content of the canes in his district are averaging about 11.50 per cent with the purity about 74 per cent. Sugar production is averaging about 150 pounds to the ton of cane. His district has had enough rain. As to the labor supply, Mr. Sonnier reports that generally speaking labor is adequate but that there are a few exceptions.

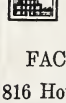
Lafourche Parish. A report from A. C. Moreau, dated November 7th, states that grinding operations in Lafourche Parish are progressing favorably and that most of the crop is being harvested with machines The labor supply is slightly inadequate. The canes are testing about par (11.50 to 12.00 per cent) with purity running about 75 per cent. Sugar production averaging about 139 pounds to the ton of cane. Cane tonnage per acre continues to run below that of last year. Sufficient rainfall has been recorded.

Iberia Parish. W. E. Williams advised us on November 7th that the 1947 grinding campaign in Iberia Parish was progressing fairly favorably. The canes are now averaging about 11.5 to 12 per cent in sucrose with the purity in normal juices running from 74 to 78 per cent. The average production of sugar per ton of cane is about 148 pounds. The majority of the crop is being harvested mechanically and the labor supply is considered fair. His district has had sufficient rain for the Fall planted canes.

Iberville Parish. On November 5th R. J. Badeaux, Jr., advised us that grinding operations in Iberville Parish were progressing favorably and that most of the crop was being harvested by machines. The labor supply in his district is inadequate. The canes are now averaging between 11 and 12 per cent in sucrose with the purity around 74 per cent. On November 5th the six mills in Iberville Parish had ground 83,483 tons of cane. Enough rain had been received.

Pointe Coupee Parish. From Pointe Coupee Parish A. B. Curet advised us on November 7th that grinding in his Parish was progressing favorably with a part of the crop being harvested by machines. The labor supply in his district is adequate. The canes are averaging about 11.96 per cent in sucrose and 75.14 per cent in purity. The production of sugar per ton of cane is averaging about 160 pounds. An adequate supply of rainfall for the planted canes has been received. The yield of cane per acre is running about 15 tons.

WING



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THE MARKETS

Despite the fact that all ceiling price have been removed from sugar sinc our last issue nothing has happened i the sugar markets to indicate an change in the general picture. The fu ture market has, in fact, been les erratic since controls were removed o October 31st than it was during th two week period prior to that date Even the rumor that the tariff o Cuban sugar is scheduled to be re duced from 75 cents to 50 cents pe hundred pounds in the not too distan future has failed, thus far, to have an effect on the steady condition of th market. In this connection, however it must be noted that any reduction i the tariff on Cuban sugar will necessi tate a similar advance in the futur market quotations if the board value are to remain relatively the same, an it is possible, therefore, that the failur of the future quotations to show an material advance is an indication of low er prices after the first of the year.

Closing quotation today (Novembe 10th) show May at 5.42 which is up five points since our last report, July is 5.44 which is also up 5 points, Sep tember is 5.44, up 4 points, Decembe is 5.43, unchanged, and March 194 is 5.19, up four points since Octobe 27th. May 1948 has continued to b the most active month but it is inter esting to note that a little trading ha developed in the March 1949 positio with the last sale at 5.19.

Several sales of actual sugars were recorded during the period ranging from 6.08 to 6.20 cents a pound delivered These were as follows:

On October 28th, 2,000 tons of Philippines for January shipment at 6.08 to Sucrest.

On October 31st, 5,000 tons of Cubas for January shipment at 6.15 to Sucrest.

On November 6th, a cargo of Cubas with outport options at 6.17 to a North Hatteras refiner.

In addition to the above listed transactions refiners are reported to have

bought about 25,000 tons of raws from Peru for December arrival at prices ranging from 6.15 to 6.20 cents a pound delivered.

With practically the entire current Louisiana raw sugar production already under contract there have been no spot sales in the local market and the price for this commodity has remained unchanged at 6.32 cents a pound. Apparently there is very little chance of any Louisiana raw sugar being sold on the spot market this season.

Four sales of Louisiana Blackstrap were recorded during the period, all at 26 cents a gallon in bulk f.o.b. plantation. The sales took place on November 5th, 6th, and 7th.

Weekly average prices since the start of the grinding season, issued by the Cane Products Trade Association, have been as follows:

For the week ending October 9th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 16th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 23rd. Raws 6.32. Blackstrap 25 cents.

For the week ending October 30th. Raws 6.32. Blackstrap 25.90 cents.

For the week ending November 6th. Raws 6.32. Blackstrap 26 cents.

For the week ending November 13th. Raws 6.32. Blackstrap 26.25.

There has been no change in the refined sugar lists of the major refiners, those in New Orleans remaining at 8.40 and in New York 8.35 and 8.40. Sucrest, however, was accepting orders on November 7th at 8.25 for February to May shipment. Offshore refined in cotton bags has advanced to 8.50. Beet sugar lists remain unchanged at 8.30.

FURTHER RESULTS ON REDUCTION IN YIELD OF C. P. 34-120 CAUSED BY MOSAIC

By Eaton M. Summers, Associate Pathologist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agricutlure.

A preliminary report on the effects of mosaic disease upon yields of the sugarcane variety, C. P. 34/120, was published[1] in 1946. That report presented the results from the plant cane crop of a yield test planted in September 1944.

The plant cane results showed significant reductions, due to the presence of mosaic, in weight per stalk, tons per acre, and sugar per ton of cane. These combined to give a reduction in yield of sugar per acre of 29.6 percent.

The present paper gives the first stubble results, Table 1, and the 2-year total results, Table 2, of this yield test. The mosaic seed cane planted in September 1944 was selected from stools that were 100 percent diseased and the healthy seed cane from stools with no apparent mosaic. First stubble cane in plots planted with diseased seed cane remained diseased and that in plots planted with apparently healthy seed cane showed no mosaic. As was the case in the plant cane test the difference in the number of millable stalks produced was slightly below that required for significance at the .01 level, but was well beyond the requirement for the .05 level. In all other measurements, however, the differences in favor of plots planted with mosaic-free seed cane were highly significant. The average reduction in pounds of sugar per acre in the mosaic plots was 1,730 or 28.96 percent as compared with the healthy plots.

The decreased yields in the mosaic plots as compared with the healthy control plots of the combined plant cane and first stubble results are highly significant in every respect, even in the

TABLE 1. First stubble yield test with C. P. 34/120 comparing effect of planting healthy and mosaic seed cane.

Type of seed cane	Plot No.	Millable stalks per plot (1/120 acre)	Weight per stalk	Yield per acre	Sugar per ton	Sugar per acre
		Number	Pounds	Tons	Pounds	Pounds
Mosaic	1	288	1.14	19.74	190.21	3755
	2	281	1.23	20.82	196.17	4084
	3	290	1.29	22.44	192.24	4314
	4	290	1.27	22.08	198.93	4392
	5	297	1.16	20.70	199.98	4140
	6	300	1.33	23.88	196.82	4700
	7	308	1.30	23.94	188.17	4505
	8	292	1.29	22.62	202.78	4587
	9	276	1.24	20.58	205.97	4239
	10	304	1.27	23.16	185.66	4298
Average		293	1.25	22.00	195.68	4301
Healthy	1	310	1.47	27.30	193.94	5295
	2	335	1.50	30.18	234.60	7080
	3	287	1.54	26.46	219.84	5817
	4	326	1.51	29.46	217.40	6405
	5	360	1.33	28.80	210.18	6053
	6	320	1.55	29.70	218.75	6497
	7	331	1.37	27.24	222.93	6073
	8	333	1.30	25.98	226.44	5883
	9	298	1.45	25.98	210.04	5457
	10	280	1.56	26.16	219.68	5747
Average		318	1.46	27.73	217.38	6031
Actual difference		25	.21	5.73	21.70	1730
Difference required for P. = .01		26	.10	2.35	12.91	527

TABLE 2. Combined plant cane and first stubble results of yield test with C. P. 34/120 comparing effect of planting healthy and mosaic seed cane.

Type of seed cane	Plot No.	Millable stalks per plot (1/120 acre)	Weight per stalk	Yield per acre	Sugar per ton	Sugar per acre
		Number	Pounds	Tons	Pounds	Pounds
Mosaic	1	539	1.34	43.44	170.33	7399
	2	558	1.39	46.56	186.86	8700
	3	570	1.44	49.38	179.32	8855
	4	567	1.39	47.16	185.14	8731
	5	580	1.33	46.26	188.82	8735
	6	583	1.50	52.32	181.90	9517
	7	570	1.46	49.92	171.13	8543
	8	576	1.46	50.40	184.35	9291
	9	551	1.38	45.60	184.82	8428
	10	593	1.49	53.16	190.80	10143
Average		569	1.42	48.42	182.45	8834
Healthy	1	606	1.68	60.96	194.70	11869
	2	612	1.73	63.54	207.05	13156
	3	586	1.72	60.30	199.59	12035
	4	620	1.76	65.52	208.59	13667
	5	652	1.67	65.34	201.13	13142
	6	604	1.76	63.84	192.11	12264
	7	639	1.59	61.08	210.76	12873
	8	639	1.50	57.36	213.89	12269
	9	565	1.72	58.14	198.64	11549
	10	544	1.80	58.80	201.48	11847
Average		607	1.69	61.49	202.76	12467
Actual difference		37	.27	13.07	20.31	3633
Difference required for P. = .01		31	.08	3.32	10.02	933

number of millable stalks produced. There was an average reduction of over 13 tons of cane per acre and of over 20 pounds of sugar per ton. The reduction in total sugar yield per acre was 3,633 or 29.14 percent

The occurrence of mosaic in C. P. 34/120 is apparently still limited to Raceland Plantation.[2] It would appear that there is no immediate threat from mosaic to the continued use of this variety wherever it fits into the planting program. We do know, however, that, under certain conditions, it is susceptible to mosaic and that it is very severely reduced in yielding capacity when infected.

[1] Summers, Eaton M., Reduction in yields of C. P 34/120 caused by mosaic. Sugar Bulletin 24 (No. 18): 162 June 15, 1946.

[2] Summers, Eaton M., and Abbott, E. V. Disease testing and initial seedling selection work at the Houma Station during 1946. Sugar Bulletin 25 (No. 21): 189-190 August 1, 1947.

LEAGUE APPROPRIATES $15,000.00 TO ASSIST GOVERNMENT IN CANE SEEDLING WORK

The Executive Committee of the American Sugar Cane League has voted to contribute $15,000.00 from the treasury of the League to assist the U. S. Department of Agriculture in its cane breeding work. The funds have been granted at the request of Dr. E. W. Brandes, Head Pathologist in Charge of the Division of Sugar Plant Investigations of the U. S. Department of Agriculture, who has advised the League that unless the funds are forthcoming it will be impossible for his departmen to continue its very important work o developing new cane varieties for th cane farmers of Louisiana.

The Executive Committee of th League feels that this work means to much to the cane growers to allow i to lapse and has, therefore, stepped i to fill what it hopes will be only temporary gap until sufficient govern ment funds are available.

FREIGHT RATE HEARING NOVEMBER 12TH

The Louisiana Public Service Commission will conduct a public hearing in Baton Rouge, La., on November 12th to obtain evidence relative to a proposed general increase of 10 percent in interstate freight rates. The carriers are endeavoring to obtain an increase in the freight rates within the State equal to the 10% in interstate rates that has already been granted to the lines by the Interstate Commerce Commission.

The prevailing opinion is that the Louisiana Public Service Commission will follow the lead of the Interstate Commerce Commission. We understand that the Public Service Commission has the authority to increase the rates effective on the date of the hearing, November 12th, or it may delay the advance for twenty days. The hearing is scheduled to convene at 10:00 A.M.

Power Driven Plant Cane Hoe Developments

(Continued from Page 52)

offbar block through the cane, could do a much better job if Longman or Hebert hoes, working the sides of the offbar block, had preceded the Dixie Hoe. Therefore brackets for carrying the Longman or Hebert Hoes are mounted on the new Dixie Hoe so that, in operation, the offbar block is under compression from the sides by Longman or Hebert Hoes, while the top of the block is being worked by the Dixie Hoe Spinner.

Like any other tool designed to accomplish one step in a complete operation we have found that the work of the Dixie Hoe can be tremendously improved if preceding field operations have been conducted with a view to the use of the Dixie Hoe. In the Youngsville area our plantings are all quite deep. Drainage permits this deep planting and generally our winter temperatures are several degrees lower than those encountered in the rest of the cane belt from the Bayou Teche area eastward because we have no protecting swamps or marshes to the north of us.

The Dixie machine as presently developed is capable of removing from three to four inches of surplus dirt without any shaving operation ahead of the machine. However we find that a very light shaving early in the Spring removed a great deal of the winter grass from the center of the row and improves the perfection of the work done later on by the Dixie Weeder in that it is easier for the Dixie Weeder to more completely remove Spring grass and roots. We have very little Johnson grass in the Youngsville area but do have considerable Wire or Bermuda Grass. The Dixie Hoe is doing a far better job on the Wire Grass than could be accomplished reasonably by hand.

In our limited experience of only two years with these machines we believe that the best weeding operation can be conducted when the plant cane is from eight inches to twelve inches high. When the cane is smaller it appears to be more tender and more susceptible to breakage. When the mother cane is too tall, many of the suckers are still small and tender, susceptible to breakage, and also the Spring growth is much more deeply rooted and more difficult to remove.

All of the other Dixie Machines are designed for either one row, two row, or three row simultaneous operation. Thus far no work has been done on more than one row operation with the sugarcane hoe. However it is contemplated that next Spring attempts will be made by the Dixie People to develop satisfactory hitches whereby either two or three machines may be pulled by the same tractor. None of the Dixie Machines designed for other crops require more than about one-fourth to one-half horsepower per machine. The Dixie cane hoe, working under our Youngsville conditions and removing approximately three inches of dirt, requires from three to four horsepower per ma-

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chine. That is, of course, the reason that mechanical difficulty was experienced with the hastily made 1946 Dixie Cane Weeder in which, because of time element, it was necessary to use gear boxes, gears, spinner heads, and other parts which the Dixie people had in stock for incorporation into the lighter machines which they were building for other crops.

To summarize the progress which has been made to date our experience indicates that it is conservative to state:

1. The Dixie people are determined to make available to the Louisiana Industry a machine which will hoe plant cane.
2. They have expended considerable money and effort in providing the machine which they offer today.
3. After two years operation in which all of our plant cane at Youngsville was hoed by the machines and without any hand hoeing, we feel convinced that the principle of operation of the Dixie Machine is satisfactory for mechanized operations.
4. We have made attempts to arrive at an average figure representing the percentage of cane stalks destroyed by the Dixie Hoe. Our counts indicate from two to five per cent. However the amount of destruction varies so much between different fields with different kinds and amounts of grass and weed growths that it is difficult to mention any percentage figure which would reflect the amount of destruction. It is my opinion that, considering conditions existing in the various fields when the Dixie Hoes are operating that the amount of destruction of cane stalks is always tolerable when taking into consideration the destruction which would be caused by hand hoeing under the various conditions and also when taking into account the various advantages which we secure through hoeing with the Dixie Machine which cannot be secured by hand hoeing.

5. The Dixie Hoe covers from 1½ to 2 acres per hour. It of course requires an operator as well as a tractor operator. However the same total work, including dirt removal, could not be secured from hand labor at a rate of more than about ½ acre per day per hoe.

6. We are convinced that in our Youngsville fields, with proper crop management and properly done prehoeing operations that the Dixie Hoe will continue to satisfactorily hoe our plant cane crops at considerable advantage and saving as compared to hand hoeing if hand hoe hands were available to us, which they never have been and are not now.

7. For the best results either the Longman or Hebert Hoes should be mounted on the frame of the Dixie Machine.

8. Mechanically the Dixie Machine as now offered is entirely satisfactory.

9. Somewhat better operation and considerable longer spinner tooth life will be secured from the Dixie Machine as soon as chrome vanidium spinner rods are available. However the present alloy rods hoe approximately 250 acres per set.

*Presented at the meeting of the Agricultural Section, Houma, La., July 22, 1947.

FLASH

The report reaches us as we go to press that an entire crop of Louisiana Boilback Molasses has been sold at 37½ cents a gallon. The sale is in buyer's tank cars, f.o.b. plantation, and is expected to consist of between 300,000 and 400,000 gallons. As far as we know this is the first sale of boilback molasses that has been made at a fixed price this season.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

Of The Sugar Bulletin, published semi-monthly at New Orleans, La., for October 1, 1947, State of Louisiana, Parish of Orleans.

Before me, a Notary Public in and for the State and parish aforesaid, personally appeared Marcel J. Voorhies, who, having been duly sworn according to law, deposes and says that he is the Editor of the Sugar Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit.

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Editor, Marcel J. Voorhies, New Orleans, La.; Managing Editor, none; Business Manager, none.

2. That the owner is the American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Murphy J. Foster, Franklin, La., President; J. J. Munson, Houma, La., Vice President; R. H. Chadwick, Bayou Goula, La., Treasurer; Frank L. Barker, Lockport, La., Secretary.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are none.

MARCEL J. VOORHIES,
Editor.

Sworn to and subscribed before me this 29th day of September, 1947.

BRITTMAR P. LANDRY,
Notary Public.

(Seal)

(My commission expires at death.)

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STORM DAMAGE AT CANAL POINT

Reports from Canal Point, Florida indicate very serious damage to the sugar cane breeding work that has been carried on there by the United States Government. On parts of the fields water has been standing to a depth of from 5-1/2 to 6 feet and to a depth of from 2-1/2 to 3-1/2 feet on the front lands. The existing levee was overtopped by about three feet and as the only material available for building the levee up is muck the attempt to do so has been considered inadvisable.

Laborers have been recruited to work in the slime under the supervision of men supplied by the United States Sugar Company. Using boats the work teams have made progress in locating stakes and making cuttings under water; if such a term may be used to describe the foul, dark, amber liquid which is full of duck weed, hyacinths, sour cane that is in the butyric acid stage and bubbles of sulphuretted hydrogen which smells like rotten eggs.

Progress has been made, however, and in a week's time one whole block of varieties had been salvaged, with work still going on. On the sand ridge at the front of the lake beds have been prepared for some 15,000 pots in which cuttings were planted. Selected mother plants and pollen parents for breeding were three or four feet under water and these are gradually being brought to the sand ridge by boat.

Efforts are directed chiefly towards saving, in usable condition, the varieties selected for this year's breeding program and towards the general collection of varieties as well. The experts now forecast that both lines of endeavor will be from 75% to 95% successful.

In Washington With C. J. Bourg

(Continued from Page 51)

at this time.

"It is of the utmost importance, however, to make sure that any apparent lack of demand at present does not discourage production of every possible pound of sugar in 1948. At present prices, calories in sugar are very little, if any, more expensive than those in grain and during the months before new crop cereals are available, sugar represents the most important alternative source of carbohydrates of which more supplies, rather than less, are likely to be available."

The convening of Congress can be nticipated by the sugar industry with-ut anxiety as to legislation. The ugar Act of 1948 has determined the elationship between the industry and overnment for the next five years. Ve have had reason to be thankful that he controls over sugar have likewise een eliminated in view of the recent gitation for the restoration of general rice controls and even rationing. While hese proposals have been made in con-ection with the Marshall Plan and ts effect upon the domestic economy f the U. S., it is gratifying from the tandpoint of the domestic sugar indus-ry that the complaints concerning the igh cost of foods have been leveled t other commodities. Under existing ircumstances, it now appears that the narketing of the Louisiana crop can be ccomplished in an orderly manner and t reasonable price levels. Certainly these levelopments constitute a much more tabilized and satisfactory situation than hat which followed World War I.

Naturally we are interested in the general legislative situation and especial-y the decisions to be made by Con-gress as to our part in helping to feed he other nations of the world. Sugar as to play its part and the drouth in Europe, which has curtailed the beet rops on that continent, has undoubted-y brought about conditions which will e reflected in the sugar market, as in ll others.

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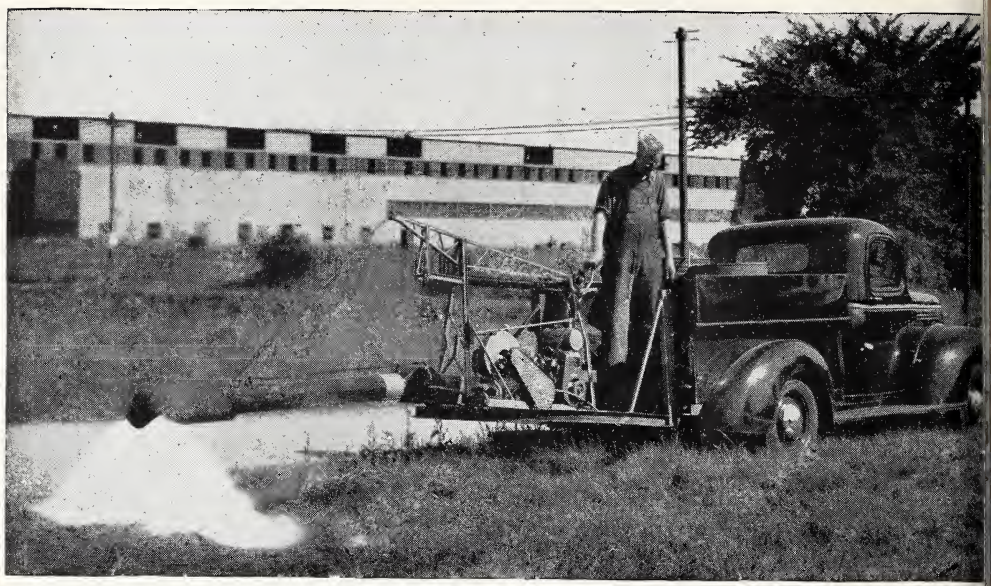

The above picture shows the Model "A" mounted on circular track which, in turn is bolted to truck body floor for straight-away burning. When so mounted the burner unit can be swung through an arc of 180 degrees by the operator. The lower picture with the same mounting shows the burned set at an angle with a special burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a dense high velocity, intensely hot flame which sears green vegetation quickly. Under average conditions the first trip can be made at about 8 m.p.h. and the second trip, which should be made from 2 to 10 days later after the sun has dried the vegetation, the speed may be much faster—10 to 15 m.p.h.

The Model "A" burning a swath 5 feet wide at 8 m.p.h. consumes 8 gallons of fuel oil per mile. At 5c per gallon the cost would be 40c. Burning one acre at the same speed consumes 13 gallons of fuel oil; at 5c per gallon the cost would be 65c.

Representative in Louisiana, WOODWARD, WIGHT & CO., LTD., New Orleans 9, La.

WOOLERY MACHINE COMPANY . MINNEAPOLIS, MINN.

Pioneer Inventors and Manufacturers of Open Flame Type Weed Burners

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THE SUGAR BULLETIN

d as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., DECEMBER 1, 1947 No. 5

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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IN WASHINGTON WITH C. J. BOURG

THE rate of duty on Cuban Sugar will be reduced from 0.75-cent to 0.50-cent per pound on 96 degree sugar effective January 1st, 1948. The full duty rate on 96 degree sugar will be reduced from 0.9375-cent per pound to 0.6875-cent per pound. Reductions in duty on other grades of sugar are in proportion. The pre-agreement preferential margins on Cuban sugar, 0.1875-cent per pound on 96 degree sugar, remain the same.

The Jones-Costigan Act of 1934 initiated the establishment of quantitative restrictions on imports and on marketings of domestic sugar in the United States, in the form of quotas assigning to each supplying area, foreign and domestic, a definite allocation of the total continental United States requirements of sugar. Quota legislation has been continuously in effect since then.

Under the Law, the Secretary of Agriculture is required to determine annually the year's sugar requirements of the United States. It is this stipulated quantity made available for consumption which adjusts supply to demand and thus influences the United States price of sugar. The tariff under this system loses much of its importance. Quotas restrict imports much more definitely than the tariff.

Division of U. S. Sugar Requirements

During a typical pre-war period (average 1936-38) under the quota system, 54 percent of the United States consumption of sugar was of domestic production and 46 percent consisted of imported sugar. The supply of domestic origin was about evenly divided between continental production and that shipped from Hawaii and Puerto Rico. Cuba was the principal foreign supplier accounting for 30.5 percent of the United States consumption; Philippine Islands were second with 14.5 percent; and all other foreign countries combined contributed only 1 percent. The average annual United States consumption for this period was 6,771,237 tons.

New Act in Effect January

The Sugar Act of 1937, which expires December 31, 1947, has been replaced by the enactment of the Sugar Act of 1948 which will become effective January 1, 1948, and extends for 5 years. The new law puts domestic producers and Philippine quotas on a tonnage basis rather than on a percentage basis as in the Act of 1937 and assigns to Cuba 98.64 percent of the remainder of consumption requirements and 1.36 percent to other countries. The tonnage quota for the Philippine Islands, same as that provided for in the Philippine Act, is entered free of duty during the first 8 years of Philippine independence. Until the Philippine sugar industry recovers from the effects of the war, Cuba is allowed to make up most of the deficit. The new Sugar Act also provides that Cuba's share of the United States market for sugar shall be no less than if figured under the Sugar Act of 1937; the new Sugar Act, thus, is no more restrictive of imports than it is of domestic production for the United States market.

The new Act also provides for the

(Continued on Page 69)

CLARIFICATION PROBLEMS

by

Arthur G. Keller, Chemical Engineer, Louisiana State University.

FOLLOWING the onset of the present rainy spell we have been receiving reports from the various sugar factories, co-operative and others, of difficulties with settling juices and handling muds. This memorandum is intended primarily to pass on to you such information as has come to our attention and to give you our views on this problem which has assumed the proportions of a major calamity.

At this writing, November 17, 1947, we have during the past week visited or held telephone conversations with administrative or technical personnel of the following mills: Glenwood, Helvetia, Magnolia, Waterford, Iberia, Breaux Bridge, St. Louis, Caldwell, Reserve, Cinclare, Valentine, Erath, Orange Grove and Angola. With the exceptions of Breaux Bridge, Erath, Orange Grove and Angola all of the mills were experiencing a great deal of trouble with light, soupy muds which filled their clarification equipment and forced the mills to slow down to two-thirds to one-half their normal grinding rates. It should be noticed that in this group of mills there are factories equipped with Dorr, Graver, Fortier and Deming Clarifiers. Most of the mills are using Oliver filters.

Numerous theories to account for the present difficulties have been advanced. They include among others the following:

1. Variety of cane.
2. Excessive amounts of field mud in the cane.
3. Excessive amounts of cane tops.
4. The drouth during the summer.
5. The September hurricane.
6. Lack of phosphate in the juices.

Remedies suggested and/or tried include the following:

a. Addition of phosphoric acid to the juices.
b. Addition of bentonite to the juices.
c. Washing the cane.
d. Ditching part of the extra mud.
e. Diluting the clarifier mud with water, liming, heating and settling. The clear juice is used and the bottoms are ditched.
f. Reducing the grinding rate.
g. Reducing the grinding rate and stopping when necessary to let the muds settle enough to permit operations to continue.

The following observations are we believe worthy of your consideration.

1. The only plants in the group not having "mud" trouble are Breaux Bridge, Orange Grove, Erath, and Angola. All of these mills are receiving a very high percentage of hand harvested cane, while the other mills listed are receiving a very high percentage of machine harvested cane.
2. Magnolia, Iberia and Caldwell are washing their cane on the carrier and in this way are able to reduce the amount of field mud entering their plants. Washing appears to be of some help but is not a complete solution to the problem.
3. The use of phosphoric acid, bentonite, sulfur dioxide and similar materials not only does not help but actually increases the volume of muds.
4. There does not appear to be any simple explanation of the present trouble. Most operators will recall that similar conditions prevailed during the rainy period in late November—early December 1944 and that we also had "mud" troubles during 1946-47 when it started raining toward the end of November. From work done here at L.S.U. and elsewhere it appears

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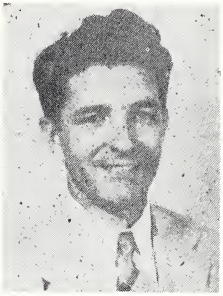
YOUR COUNTY AGENT REPORTS

The Cane Crop in St. John Parish

by

Otis J. Broussard, County Agent



MR. BROUSSARD

THE crop harvest in general in St. John Parish is estimated to be 20% shorter than that of last year. Adverse weather conditions of heavy spring rains, summer drought and the worst hurricane in 30 years have brought about this decline in the crop yield. The harvest season has begun with fair success, but recent rains are now hindering harvest operations.

Up to November 27th less than 1/3 of the total parish cane acreage of 10,500 acres had been harvested. The rains have been so heavy that no harvest operations have been resumed from November 20 to November 27, the date this report is being sent in.

The three sugar mills of the parish have had to cease operating for several days due to lack of cane. This unfavorable weather has caused heavy trash content making it difficult for the miller and farm operator to be on too friendly terms.

A heavy percentage of trash in sugar cane will cause the mill to slow down and at times even chokes, causing a complete cessation in operations. The farmers under these conditions lose much of their recoverable sugar per ton. Under these existing conditions harvest operations on many farms of the parish will carry on into January.

In Washington With C. J. Bourg

(Continued from Page 67)

continuation of the excise tax on sugar consumed in the United States at the rate of one-half cent per pound on 96 degree sugar and also of conditional payments to domestic producers of sugarcane and sugar beets.

Hearings on Consumption Requirements

Under the new Sugar Act, an open hearing will be held during December on the subject of the probable consumption demands during 1948. An innovation in the new law requires the Secretary of Agriculture to estimate consumption and to establish quotas during the first ten days of January. He will hold hearings in December for the purpose of giving an opportunity to the producers, distributors, and consumers of sugar to be heard with respect to the several influences which may affect the demand for sugar in 1948. In view of the rationing program throughout the war years, which program was terminated only in June, 1947, the subject of most interest will be the estimate of what is called in the sugar trade, the "invisibles." Naturally, under rationing, there were no invisibles but the abnormally large distribution of sugar this Fall raises the question as to how much of this sugar is going into stocks or upon pantry shelves of the housewives.

SUMMARY OF FERTILIZER TEST ON SUGARCANE IN 1946

by

Lester G. Davidson, Associate Chemist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

FIELD fertilizer tests, on the major soil types used for sugarcane production in Louisiana, were conducted with the cooperation of the owners, managers, and overseers on plantations at widely scattered locations in the sugarcane area. These field tests were designed to compare the effects of nitrogen alone with nitrogen plus phosphate or potash or both, and the effects of different sources of nitrogen, on yields of cane and sugar and on juice quality. Two of the tests on acid soils were designed to study the effects of the use of lime as a soil amendment.

A test with C.P. 33/243 plant cane on Yazoo soil in Lafourche Parish, between Thibodaux and Labadieville, was designed to compare the effects of nitrogen alone with mixed fertilizers. Approximately equal yields of cane were obtained with the use of 24-0-0, 24-24-0, 24-0-24, and 24-24-24 (Pounds of N, P_2O_5, and K_2O per acre, respectively) treatments,[1] averaging 31.5 tons of cane per acre, an increase of 7 tons as compared to the unfertilized controls. Mixtures supplying 60 pounds of nitrogen plus equal amounts of phosphate or potash or both gave approximately the same yields of cane as was obtained with 60 pounds of nitrogen alone, averaging 37 tons per acre. The highest yield of cane, 43 tons per acre, was obtained with the 96-96-96 treatment, as compared to a yield of 39 tons of cane per acre from the 96-0-0 treatment. The percent sucrose decreased slightly with increase in cane yields. This decrease amounted to approximately 0.5% for the 96-96-96 treatment as compared with the 96-0-0 treatment; and to approximately 0.6% for the average of these and the 96-96-0 and 96-0-96 treatments as compared with the average of all other treatments.

A test with C.P. 29/120 first stubble cane on Yazoo soil in Lafourche Parish, near Raceland, was designed to compare the effects of split applications of fertilizer as compared to a single application. The single application (April 9) was compared with 2 applications at 6-week intervals, (April 9 and May 22) and with 3 applications at 4-week intervals, (April 9, May 8, and June 5) using equal total amounts of fertilizer. Yields of cane and sugar per acre were practically the same from all three methods of application. Practically equal yields of cane and sugar per acre were obtained with the use of the 36-0-0 and the 36-24-24 treatments, amounting to an increase of 6 tons of cane per acre as compared to the unfertilized controls. Yields of cane and sugar per acre were not further increased by the use of 60 pounds of nitrogen alone per acre and the percent sucrose was not decreased by this fertilize treatment. As compared with the 36-0-0 and the 36-24-24 treatments, 96 pounds of nitrogen alone per acre increased the yield of cane by approximatel 4 tons per acre. The percentage of sucrose was not appreciably decreased by this treatment when the nitrogen was applied on April 9 or on April 9 and May 22, but was decreased approximately 1% when one-third of it was applied on June 5.

The effect of nitrogen alone and of complete mixtures were compared in a test with C.P. 29/120 and C.P. 34/120 first stubble cane on Yazoo soil in Lafourche Parish, near Thibodaux. With each variety, yields of cane and sugar per acre from the 36-0-0, 36-24-24, and

36-48-48 treatments were very nearly the same. As compared with the unfertilized controls, these treatments increased cane yields by an average of about 4½ tons per acre from C.P. 29/120 and 4 tons per acre from C.P. 24/120, with no reduction in percent sucrose. Use of 60 pounds of nitrogen alone per acre further increased cane yields by about 1½ to 2 tons per acre, also with no reduction in percent sucrose.

In a test with C.P. 33/243 second stubble cane on Yazoo soil in Lafourche Parish, near Thibodaux, the 24-0-0 and 24-24-24 treatments gave approximately equal yields of cane and sugar per acre, an increase of about 4 tons of cane per acre as compared to the unfertilized controls. The 60-0-0 treatment gave approximately 3 tons more cane and 425 pounds more sugar per acre than the 60-48-48 treatment, and approximately 9 tons more cane and 1600 pounds more sugar per acre than the unfertilized controls. However, the percentage of sucrose was approximately 0.5% higher from the 60-48-48 treatment as compared to the 60-0-0 treatment. The 120-120-120 treatment gave approximately 2 tons more cane and 700 pounds more sugar per acre than the 120-0-0 treatment and also approximately 2 tons more cane and 500 pounds more sugar per acre than the 60-0-0 treatment. Percentage of sucrose from the 120-120-120 treatment was about 1% higher than from the 120-0-0 treatment and equaled that from the 60-0-0 treatment.

A test with C.P. 34/120 plant cane on Sharkey soil in Terrebonne Parish, near Houma, was designed both to compare the effects of 24, 36, 60 and 96 pounds of nitrogen alone and in combination with equal quantities of phosphate and potash when applied, in accordance with customary practice, to both sides of the row, and also to compare the effects of 24 pounds of nitrogen alone, using cyanamid, ammonium sulfate, and nitrate of soda, when applied all to one side and ½ to each side of the row. Yields of cane and sugar from 24 and 96 pounds of nitrogen alone per acre were slightly greater than from complete mixtures supplying the same amounts of nitrogen and yields from 36 and 60 pounds of nitrogen alone per acre were slightly less than from complete mixtures supplying the same amounts of nitrogen. The average yields of cane and sugar per acre and the percentages of sucrose from the nitrogen alone treatments and from the complete mixtures were essentially identical. Slightly higher yields were obtained when 12 pounds of nitrogen were applied to each side of the row than when a total of 24 pounds of nitrogen were applied to one side of the row. The increases, which were variable, ranged from about ½ to 2¾ tons of cane and from about 135 to 635 pounds of sugar per acre. Percentages of sucrose were essentially identical.

In a test with C.P. 29/120 and C.P. 34/120 first stubble cane on Sharkey soil in Lafourche Parish, between Thibodaux and Labadieville, nitrate of soda, Uramon, and sulfate of ammonia proved equally efficient as cane fertilizers. With each variety, yields of cane per acre from the use of the 36-0-0, 36-24-24, and 36-48-48 treatments were about the same, producing an average yield increase of about 4½ tons of cane as compared to the unfertilized controls. Yields from application of 60 pounds of nitrogen alone were somewhat higher than those from the above treatments, averaging about 1½ tons more cane per acre. In the case of all treatments the percentage of sucrose was essentially the same.

Nitrate of soda, ammonium nitrate, cyanamid, sulfate of ammonia, and Uramon were compared in a test with C.P. 34/120 second stubble cane on Sharkey soil in Terrebonne Parish, near Houma, and all were approximately equally efficient as cane fertilizers. The use of 24 pounds of nitrogen per acre produce an average yield of 21¾ tons of cane per acre, an increase, of 4½ tons as compared to the unfertilized controls. An additional yield increase of 1 ton of cane per acre was obtained with the use of 36 pounds of nitrogen per acre. With 60 pounds of nitrogen

per acre, the yield of cane was increased by an average of 7 tons per acre as compared to the unfertilized controls, and an additional yield increase of 1½ tons cane per acre was obtained with the use of 96 pounds of nitrogen per acre. The use of 120 pounds of nitrogen per acre did not further increase yields. The percent sucrose, which was essentially the same when equal quantities of nitrogen were applied using the various nitrogenous fertilizers, was not decreased by the use of as much as 96 pounds of nitrogen per acre.

In a test with C.P. 34/120 plant cane on Iberia soil in St. Mary Parish, near Jeanerette, 3 rates of application of nitrogen, 3 of phosphate, and 3 of potash were used in all possible combinations, making a total of 27 fertilizer treatments. This experiment was designed so that the effects of each plant food could be evaluated. Response to nitrogen was comparatively small in this test. The use of 36 and 60 pounds of nitrogen per acre increased the yield, respectively, by 2 and 3 tons of cane and 380 and 550 pounds of sugar per acre as compared to the unfertilized controls. Yields of cane and sugar per acre were not significantly influenced by application of phosphate and potash. Yields from plots receiving 24 or 48 pounds of phosphate or potash, or both, per acre, together with 36 pounds of nitrogen per acre, averaged 0.6 ton less cane and 75 pounds less sugar per acre than were obtained from the plots which received only the 36 pounds of nitrogen per acre. Yields from plots receiving the same quantities of phosphate or potash, or both, per acre, together with 60 pounds of nitrogen per acre, averaged 0.3 ton less cane and 60 pounds less sugar per acre than were obtained from the plots which received only the 60 pounds of nitrogen per acre. Yields from individual treatments did not differ significantly, and percentages of sucrose were practically identical. Although yields from plots receiving the same quantities of phosphate or potash, or both, per acre, without nitrogen, averaged 0.9 ton more cane and 167 pounds more sugar per acre than were obtained from the unfertilized controls, the variation in yields from individual treatment showed that use of phosphate or potash, or both, had no statistically important effect in increasing yields. Percentages of sucrose were practically identical.

The same 27 fertilizer treatments were used in a test with Co. 290 plant cane on Franklin soil in St. Mary Parish, near Franklin. Compared to the unfertilized controls, the use of 36 pounds of nitrogen per acre are increased yields by approximately 6½ tons of cane and 1600 pounds of sugar per acre; the use of 60 pounds of nitrogen per acre increased yields by approximately 10½ tons of cane and 2200 pounds of sugar per acre. Statistical analysis of the data from this test showed that the use of phosphate or potash, or both, did not significantly increase the yields of cane or sugar per acre; significant increases in yields of cane and sugar per acre were obtained when the fertilizer mixtures used supplied 36 or 60 pounds of nitrogen per acre. However, the actual yield increases obtained indicate that the use of phosphate or potash, or both, may be beneficial in the case of soil of the type on which this test was conducted. When nitrogen was omitted, the use of 24 or 48 pounds of phosphate or potash per acre alone or in various combinations, resulted in slight, but variable, increases in yields as compared with the unfertilized controls except in the case of the 0-24-24 treatment, which showed a decrease; the average increase for these treatments was 2 tons of cane and 300 pounds of sugar per acre. The use of 24 or 48 pounds of phosphate or potash, or both, per acre, together with 36 pounds of nitrogen per acre, resulted in increases, also variable, in comparison with yields from the 36-0-0 treatment; the average increase for these treatments was 2½ tons of cane and 350 pounds of sugar per acre. The use of 24 or 48 pounds of phosphate or potash, or both, per acre, together with 60 pounds of nitrogen per acre resulted in slight but very variable

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CROP NEWS BY PARISHES

from

COUNTY AGENTS

The two week period since the last eport from your County Agent has een mostly bad for the cane crop. Rain in large quantities has fallen in all ections of the sugar belt, and by November 21st a new record in this espect was set in New Orleans. The eports of the New Orleans Weather ureau show that 12.60 inches of rain ad been recorded in November to that ate. A continuation of the heavy pre- ipitation until the early morning hours f November 24th increased that figure o 13.39 inches. The normal rainfall or November is 3.14 inches.

Thus far in 1947 the cane crop has nly had to live through the wettest pring on record, the driest summer on ecord, a severe tropical hurricane, and he wettest November on record and it s no wonder that the canes, and their rowers, are just a little bit weak.

The following reports give the picture n the parishes:

St. John Parish. Otis J. Broussard eported on November 22nd that the ills in his Parish had lost five days ecause of the wet weather. The anes at that time were testing about 2 per cent in sucrose and about 75 per ent in purity. Sugar production per on of cane was averaging 150 pounds. The canes were averaging about 16 ons to the acre.

Assumption Parish. From As- umption Parish Moore Valois advised s on November 22nd that mills in his istrict had been closed down for six ays in November because of the rains. The sucrose content of the canes on November 22nd was running about 12 er cent with the purity 75 per cent. ugar production, however, was only veraging 138 pounds to the ton of ane. The cane yield was about 16 tons o the acre.

Lafourche Parish. A. C. Moreau, ounty agent of Lafourche Parish, reported on November 22nd that the canes in his district were averaging about 11.75 per cent in sucrose and about 75 per cent in purity. The production of sucrose per ton of cane was running about 140 pounds. The cane production per acre in Lafourche Parish was also averaging about 16 tons. The mills in his district are having trouble with mud and trash. Mr. Moreau estimates that grinding operations in Lafourche Parish were about 40 per cent completed on November 22nd.

Iberia Parish. A report from W. E. Williams dated November 22nd, states that the cane mills in his district have lost about 4 days grinding time in November because of the wet weather. The sucrose content of the canes at that time was running about 11.70 and the purity about 75 per cent. Sugar production was averaging from 140 to 155 pounds to the ton of cane. The production of cane per acre is between 13 and 15 tons. Mud and trash are troubling the mills.

St. Landry Parish. From St. Landry Parish, A. K. Smith advised us on November 22nd that the canes in his district were testing about 12 per cent in sucrose and about 75 per cent in purity. No sugar factory operates in St. Landry Parish. Mr. Smith states that the canes are averaging about 14 tons to the acre. Some growers were having trouble securing cars for shipping the crop but no serious shortage in rolling stock had developed up to that time.

Ascension Parish. E. S. Landry, county agent of Ascension Parish, in a report dated November 22nd, states that the canes are testing about 11½ per cent in sucrose and 74 per cent in purity in his district. The production of sugar is running around 140 pounds to the ton of cane and the cane yields

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SUMMARY

(Continued from Page 72)

increases in yields of cane and sugar per acre in comparison with yields from the 60-0-0 treatment, except in the case of the 60-0-24 and 60-48-24 treatments, which showed no increase. The average increases for all mixtures supplying 60 pounds of nitrogen per acre plus 24 or 48 pounds of phosphate or potash, or both, per acre, as compared to the 60-0-0 treatment, was ½ ton of cane and 200 pounds of sugar per acre.

The effects of application of 60 pounds of nitrogen per acre, using nitrate of soda, sulfate of ammonia, cyanamid, and Uramon as sources, and 120 pounds, using nitrate of soda as the source, on limed and unlimed blocks, were compared in a test with Co. 290 third stubble cane on Franklin soil in St. Mary Parish, near Franklin. This field was limed in 1938. On the unlimed blocks and on the blocks limed at the rate of 3 tons per acre, the unfertilized controls produced approximately equal yields of cane, amounting to 15½ tons per acre. Sixty pounds of nitrogen per acre increased the yield on the unlimed blocks by over 6 tons of cane per acre and on the limed blocks by over 7 tons of cane per acre. There was no important difference in yields from the different sources of nitrogen. The percentages of sucrose was practically the same for all nitrogen sources. One hundred and twenty pounds of nitrogen per acre increased the yields on both the unlimed blocks and the limed blocks by 11 tons of cane per acre, as compared to the unfertilized controls, without appreciable decrease in percentage of sucrose. On blocks limed at the rate of 8 tons per acre the unfertilized controls gave 18½ tons of cane per acre; 60 pounds of nitrogen per acre increased the yield by 9 tons of cane per acre. The percentage of sucrose was practically the same for all nitrogen sources. One hundred and twenty pounds of nitrogen per acre increased the yield of cane by 13 tons per acre as compared to the unfertilized controls, without appreciable decrease in the percentage of sucrose.

In a test on Lintonia soil in Lafayette Parish, near Broussard, with C.P. 34/120 second stubble cane, the effects of various fertilizer treatments were compared on limed and unlimed plots. This field was limed in 1940 at 0, 1, 3 and 5 tons per acre. As compared with a yield of 16½ tons of cane per acre from unfertilized control plots where no lime had been applied, yield from unfertilized control plots showed increases of nearly 1 ton of cane per acre where 1 ton of lime had been applied and 3½ tons of cane per acre where 3 and 5 tons of lime had been applied. The percentages of sucrose were practically identical. Yields were extensively increased by fertilizer applications. Yields from unfertilized control plots and average yields from all fertilized treatments were, respectively; no lime 16½ and 26¾ tons of cane per acre; 1 ton of lime, 17-1/2 and 29-1/2 tons of cane per acre; 3 tons of lime, 21 and 29½ tons of cane per acre; 5 tons of lime, 20 and 32 tons of cane per acre. The average increase from all limed but unfertilized plots was about 2½ tons of cane per acre, as compared to the unlimed, unfertilized controls and an additional average increase of about 10 tons of cane per acre was obtained from the fertilized plots. The average yield from all plots which received the 36-0-0 treatment and from an equal number which received the 36-12-12 treatment was identical, 21 tons of cane per acre. The average yield from all plots which received the 36-60-60 treatment was 29½ tons of cane per acre as compared with an average of 31½ tons of cane per acre from all plots which received the 60-0-0 treatment. The use of the 96-0-0 treatment did not appreciably increase yields; the average yield from all plots receiving this treatment was 32 tons of cane per acre. The percentage of sucrose was not appreciably affected by any of the treatments other than the 96-0-0 treatment which resulted in an average decrease of 0.5% as compared to the average percent sucrose for the limed and unlimed unfertilized control

Results from fertilizer experiments onducted for 6 to 10 years on Yazoo harkey, and Franklin soils[2,3,4] are in eneral agreement with this year's re-ilts.

Average results indicate that plant ane on Yazoo soil may be expected show a profitable increase in yield ith the use of up to 36 pounds of itrogen per acre in the southern half f the cane area; in the northern half ttle response to nitrogen may be ex-ected. With stubble cane on Yazoo il 36 to 60 pounds of nitrogen per re will generally produce substantial creases in yields of cane and sugar er acre. Average results show that the se of phosphate or potash, or both. ith the nitrogen, does not significantly ffect the yields of cane or sugar per re on this soil type.

The average results of fertilizer tests n Sharkey soil show that on both plant nd stubble cane the use of up to 60 ounds of nitrogen per acre will gen-ally produce significant increases in elds of cane and sugar per acre. verage results show that the yields of ne and sugar per acre are not af-cted by the use of phosphate or pot-h, or both, with the nitrogen.

Average results of fertilizer tests on ranklin soil indicate that 36 pounds nitrogen per acre is sufficient for ant cane, but that 60 to 96 pounds of trogen per acre may be used profit-bly on stubble cane. Yields of cane nd sugar per acre were not affected gnificantly by the use of small nounts of phosphate or potash, or oth, with the nitrogen.

A limited number of tests have been nducted on the Iberia and Lintonia ils. Average results of these tests dicate that 36 pounds of nitrogen per re is sufficient for plant cane, but at up to 60 pounds of nitrogen per re may be used profitably on stubble ne. In some experiments response to nosphate or potash, or both, has been otained, but in most instances the ajor portion of the yield increase has en obtained from nitrogen.

Throughout this paper the pounds of the jor plant food constituents, N., P_2O_5 and K_2O,

(Continued on Page 78)

CROP NEWS

(Continued from Page 73)

are averaging 14 tons to the acre. Mud and trash are giving the mills considerable trouble. Mr. Landry says that approximately 2 days of milling time have been lost during November because of the wet weather.

Terrebonne Parish. From Terrebonne Parish, Richard Sonnier reported to us on November 24th, that the sucrose of cane was averaging about 12 per cent and the purity 78 per cent. About 155 pounds of sugar are being obtained from a ton of cane and the canes are producing about 17 tons to the acre. The Louisiana sugar mills in his area are having trouble with mud and trash and he states that the fields are very wet, making harvesting difficut. The mills in his district have lost approximately 4 days in November because of the wet weather.

Pointe Coupee Parish. A report has been received from A. B. Curet stating that the canes in his district are averaging about 12 per cent in sucrose and that the purity is about 78 per cent. The production of cane is averaging 15 to 16 tons to the acre and the sugar production is running about 164 pounds to the ton of cane. The sugar factories in that area have lost approximately 5 days in grinding time since November 1st.

St. James Parish: Joseph Lamendola, reporting on November 25th from St. James Parish, stated that the mills have been idle for six days in November because of bad weather. The canes in his district are testing about 12 per cent in sucrose, and 76 per cent in purity. Sugar production is averaging 160 pounds to the ton of cane and the canes are producing about 16½ tons to the acre. Mr. Lamendola states that about 40 per cent of the crop had been milled to November 25th. The mills are experiencing considerable trouble with mud and trash and the net trash average of two mills during the wet period is given at about 8 per cent.

St. Martin Parish. From St. Martin Parish, Stanley Angelle reported on

November 25th that approximately 2 days grinding time had been lost in his district because of wet weather. The canes are averaging about 11.33 per cent in sucrose and 74 per cent in purity. The sugar production is about 150 pounds to the ton of cane and from 12 to 14 tons of cane are being produced per acre. Mr. Angelle states that the cane per acre average is from the stubble crop. All the mills in his district are having trouble with trash and mud and it is estimated that the milling capacity is being reduced about 10 per cent.

THE MARKETS

The rumor that the tariff on sugar was to be reduced has now become a fact with the official announcement by our Government that, effective January 1st 1948 the tariff on Cuban raw sugar, 96 test, will be reduced from the present 75 cents a hundred pounds to 50 cents a hundred pounds. The rate on full duty sugars will also be reduced from 9375 cents to 6875 cents. The new rates will increase the Cuban preferential from 20 per cent to 27.27 per cent.

This official news has had very little effect on the sugar markets. Trading in sugar futures has, in fact, dropped back to less than 100 transactions a day and the market has apparently settled down to routine coverings with little speculation in evidence. Trade reports indicate that the reduction in the tariff had already been discounted before the official announcements was made. If this is true the price of sugar will definitely be lower after the first of the year because the present future quotations all indicate a delivered price of under 6 cents.

Closing quotations today (November 25) place May at 5.41, which is down 1 point since our last report. July is 5.41, down 3 points, September is 5.43, down 1 point, December is 5.43, down 4 points, and March 1949 is 5.13, down 6 points since December 10th.

Only one sale of actual sugars has been recorded since our last report. This was received on November 19t and consisted of 100,000 bags of Cuba for January-February shipment at 5.4 c.i.f. When the new Cuban duty of 5 cents is added the delivered price of th purchase will be 5.90 cents a poun The last previous sale of Cubas wa for May shipment at 6.17 delivere Since this delivered price was probabl arrived at by adding a tariff of 75 cent the c.i.f. price of this last previous sa would be 5.42 cents a pound. Apparen ly the reduction in the tariff isn't doin the Cuban producers much good.

Louisiana Markets

The dearth of spot sales in the Louis ana raw sugar market has continued an eight weeks of the 1947-48 Louisian marketing season have now gone in the record book with no spot sales r ported. Nine weeks remain in the ca contract period. The raw sugar quot tion remains unchanged at 6.32, deli ered New Orleans.

The price of Louisiana blackstra molasses advanced to 27 cents a gallo in bulk f.o.b. plantation, on Novemb 13th and to 28 cents on November 26t The sales at 27 cents were recorded c November 13th, November 14t November 19th, and November 20t

Trade reports indicate that Louisian first molasses is moving generally 48 cents a gallon in bulk f.o.b. plant tion, with Louisiana second molasse or boilbacks, selling at 37½ cents to 3 cents according to the grade. It is al reported that a small sale of secon was made at 40 cents a gallon.

Weekly average prices since the sta of the grinding season, issued by t Cane Products Trade Association, ha been as follows:

For the week ending October 9t Raws 6.32. Blackstrap 23 cents.

For the week ending October 16t Raws 6.32. Blackstrap 23 cents.

For the week ending October 23r Raws 6.32. Blackstrap 25 cents.

For the week ending October 30t Raws 6.32. Blackstrap 25.90 cents.

For the week ending November 6t Raws 6.32. Blackstrap 26 cents.

For the week ending November 13th. Raws 6.32. Blackstrap 26.25.

For the week ending November 20th. Raws 6.32. Blackstrap 27.00 cents.

For the week ending November 27th. Raws 6.32. Blackstrap 27.00 cents

List prices for standard granulated sugar have remained unchanged at 8.40 locally and at 8.35-8.40 in the East. Beet lists remain unchanged at 8.30. The demand for refined sugar has eased considerably.

THE PITRE HOE

A letter from Mr. Leon J. Landry in the Quarterly Bulletin of The American Society of Sugar Cane Technologists.

Relative to the rotary cane hoe developed by Mr. Ernest Pitre whose address is 519 Field St., New Iberia, La., I wish to say that, in my opinion, this field implement is what we have been looking for since Dr. Stubb wrote his book on the cultivation of sugar cane in 1896. Dr. Stubb advocated shallow cultivation but no implement was ever developed making it possible to destroy the grass and also to keep a mulch on the top of the ground. This cane hoe when put in a vertical position can be made to hoe the cane, remove the dirt, destroy the grass and mulch the soil at the same time.

This implement was perfected in my field with my implements and we tried it, adjusted it to fit not only the cane crop but corn, potatoes, and cotton as well.

Our present method of cultivation (by cutting the roots and preventing them from developing) retards the growth of the plant until we finally lay by the crop.

Mr. Pitre is the sole owner of the rotary cane hoe and deserves all the credit. I only took part in order that it might conform to our present day needs and when it is put in the hands of the field men they will use it in many more ways than I am able to describe. This important implement will make possible the principle that we have long had in mind.

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SUMMARY

(Continued from Page 75)

applied per acre are stated in the order ind cated and are separated by hyphens. The values should not be confused with fertiliz grades customarily expressed in this form.

[2]Davidson, L. G., and Hurst, L. A.
1942. Soil Fertility Investigations on Suga cane in Louisiana. The Sugar Bullet 21, No. 3, pp. 20-22.
[3]..... and .....
1945. Summary of Tests with Selected Fe tilizer Treatment on Sugarcane Major Soil Types in Louisiana. T Sugar Bulletin 23, No. 8, pp. 57-59.
[4]Davidson, L. G.
1945. Effect of Different Sources and Rat of Application of Nitrogen on Yields Sugarcane in Louisiana. The Sug Bulletin 23, No. 20, pp. 180-182.

FERTILIZER FOR 1948

by C. J. Bourg

Even though the 1935-39 average pr duction of nitrogen fertilizer amount to only 371,000 tons while the 194 1948 estimated production of nitrog fertilizer will amount to 816,000 to American farmers have so increas their use of fertilizer that there is shortage for 1948. There have be complaints about the Government sen ing too much fertilizer overseas but t Department of Agriculture reports th the exports of nitrogen fertilizer, most by the Army to occupied areas, will less than it was last year. The 1946- exports were 67,000 tons while the es mated exports for 1947-48 will be 61,0 tons. In the meantime the imports nitrates are estimated to be 187,0 tons, leaving a net gain of 126,000 t in favor of the imports.

The Executive Committee of t American Sugar Cane League has cently appointed a committee to ma a survey of the fertilizer situation a to make recommendations regarding t organizing of a cooperative to act as purchasing agent for the fertilizer quirements of the industry as well to inquire into the possibility of esta lishing a fertilizer mixing plant. By t means the sugar cane growers of Loui ana could be assured of getting th requirements at a reduced price.

CLARIFICATION PROBLEMS

(Continued from Page 68)

that the combination of immature tops and field mud, (particularly clay) is at the root of the trouble.

A survey of what has been and is ing done seems to indicate that the llowing steps should be taken:

1. Direct every possible effort toward cleaning up the cane supply. Some mills have refused to receive cane which has been piled or "rooted up" with one man loaders, because of the excessive amounts of mud carried by this cane when the operator is the least bit careless.
   Growers can, in most cases, do a better job of topping and cleaning cane if sufficient pressure is brought to bear on the absolute necessity for their welfare as well as the factory's of this step.
2. Most mills that we have visited do not have an adequate supply of bagacillo for their Oliver filters. The manufacturers claim that this filter should receive a minimum of ten pounds of bagacillo per minute per 1000 tons cane ground per 24 hours. Check by weighing the amount of bagacillo you are actually getting and if the amount is deficient try to provide additional screening area to increase the supply.
   More bagacillo will improve the work of the filter and reduce the amount of mud being recycled in the filtrate.
3. Slow down the grinding rate to what your equipment can handle.
4. As a last resort resettle your excess muds, drain off what you can salvage and ditch the rest.

The problem we are now facing is dustry wide, there appears to be no nple solution. For its own preserva- n, the industry must do everything ssible to improve the cleanliness of ne supplied to the mills.

For the present at least we can fight and pray for cool dry weather.

The above communication was sent to all operative sugar mills on November 17th by . Keller.

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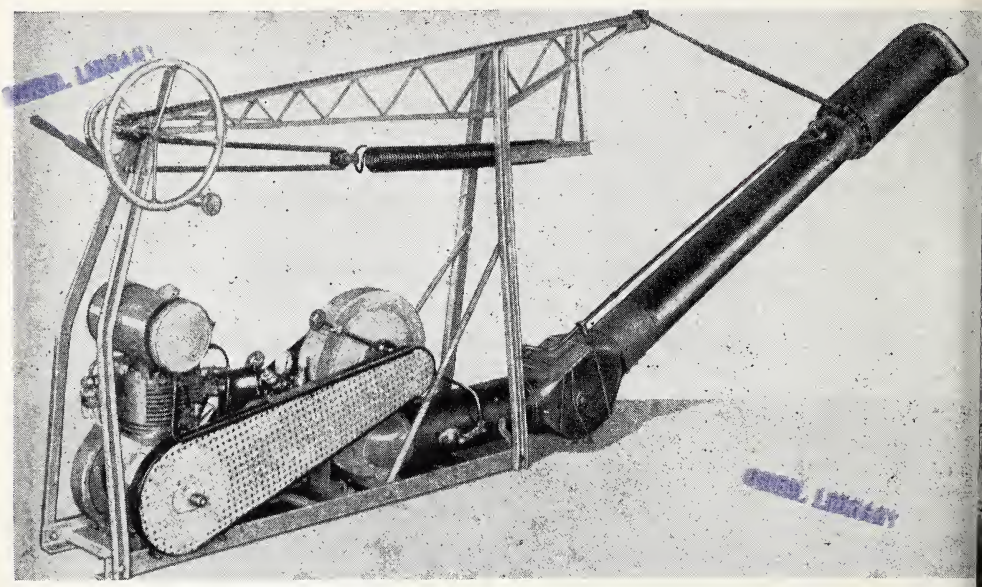

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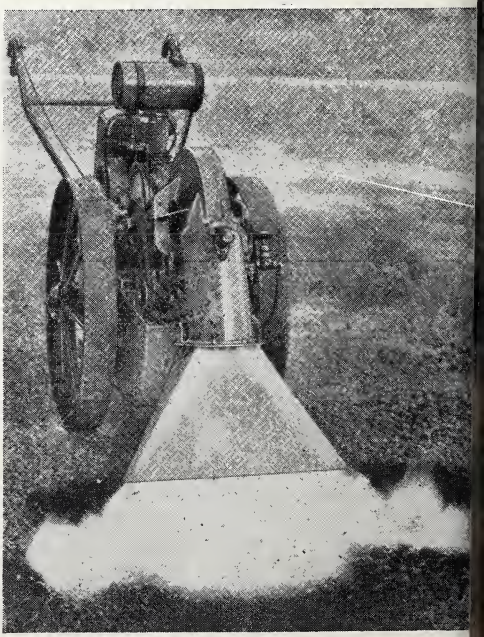

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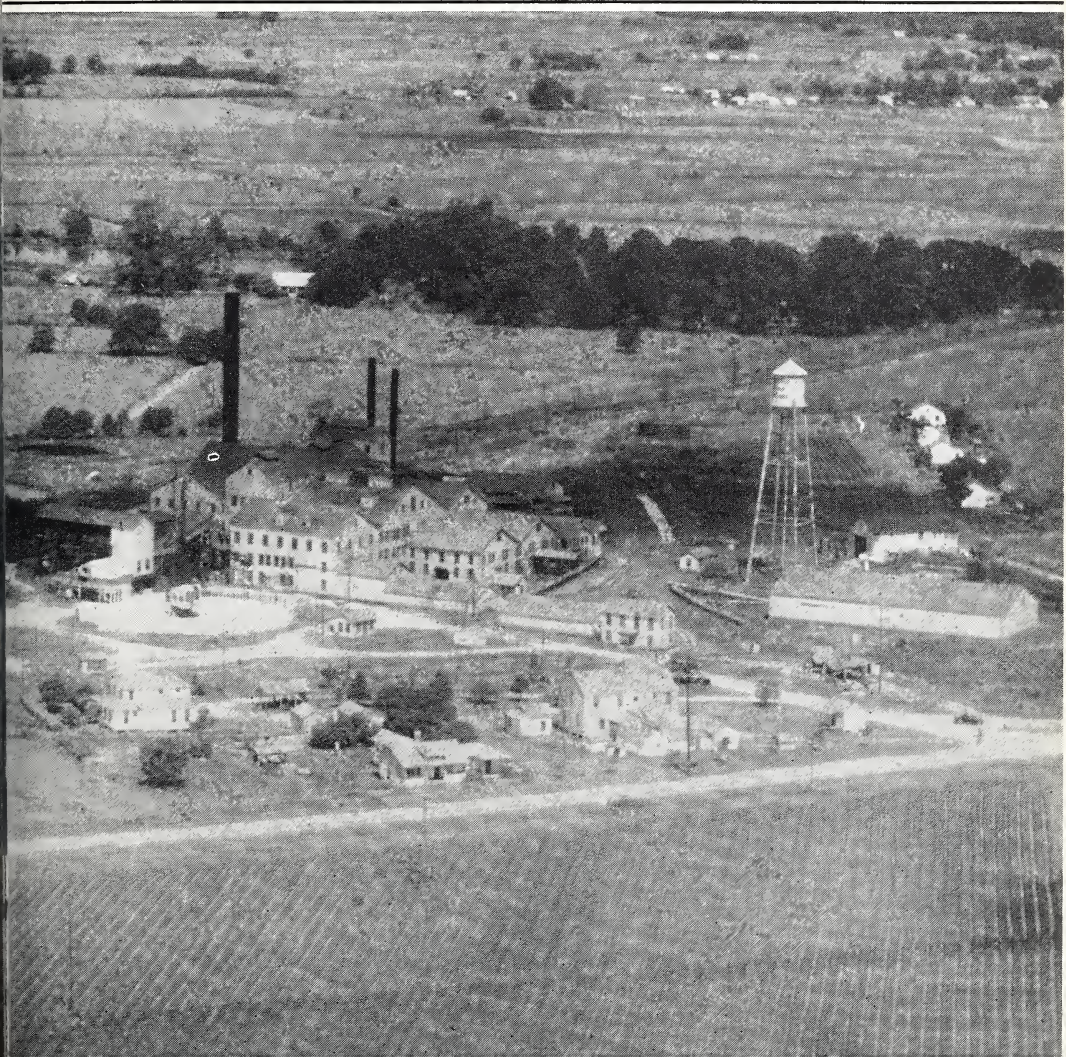
THE SUGAR BULLETIN

ered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 187

ol. 26 NEW ORLEANS, LA., DECEMBER 15, 1947 No. 6



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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IN WASHINGTON WITH C. J. BOURG

Published dispatches from Cuba are being received with mixed feelings in domestic sugar circles and uncertainty as to how they can be interpreted. A conference on international trade and employment is being held in Cuba, and delegates from foreign areas are reported to have attacked the Reciprocal Trade Treaty under which the tariff on Cuban sugar is to be reduced in January. Others have questioned the Sugar Act of 1948 in view of the quotas therein established. All of these complaints are being voiced by representatives of nations which have not established in previous years any record of substantial imports of sugar into the U. S., although American dollars have now become much more attractive to all such exporting nations. In connection with the tariff reduction on sugar, the Cuban Congress has held up ratification of this latest supplement to the Reciprocal Trade Treaty. One of the dispatches suggests that the opposition comes from representatives of the rather large membership of the Communist party in Cuba. Other dispatches reveal that on the basis of the transactions in Cuban sugar of the 1948 crop, the Cubans may be returning to their old practice of failing to take advantage of tariff concessions granted to them. Tariff reductions are of doubtful value to any country which immediately discounts the amount of such reduction when fixing market prices.

The International Sugar Workers Congress also met in Cuba with delegates allegedly representing foreign as well as domestic insular areas. The reports indicate that this movement is part of the plan of action announced by Harry Bridges (whose threatened deportation as a Communist has been very much in the news in recent years) to bring about unionization of sugar farm workers in all areas, domestic and foreign, which produce sugar for the U. S. market. One of the objectives would appear to be to urge that the United Nations purchase Cuban and other crops for the distribution of sugar throughout the world.

Nemir Enters Industry

Albert S. Nemir has resigned from the Department of Agriculture to go into business for himself. Nemir is well and favorably known in the sugar trade, especially among those who came to Washington during the war years, as he has been connected over many years either with the Department of Commerce, the War Food Administration, the War Production Board, or the Department of Agriculture in matters relating to sugar. His experience in the Government and in the interpretation of sugar statistics well qualifies him for the industrial consultation service which we understand will be in addition to other services his firm will be prepared to handle. The sugar trade has found Mr. Nemir to be helpful and fair in his relations with the industry. The domestic sugar representatives wish him well in his new line of endeavor.

1948 Consumption

Hearings on the estimate of sugar consumption for 1948 have been scheduled for December 16th in Washington when the League will make an appearance for the Louisiana sugar industry.

OBSERVATIONS ON SUGAR FACTORY OPERATIONS

by

Arthur G. Keller, Chemical Engineer, Louisiana State University.

THE following reports is based on visits to and observation of operations at the following mills during the past two weeks; Evan Hall, Lula, St. Louis, Valentine, Magnolia, Laurel Grove, Alma, St. James, St. Mary, Columbia, Iberia and Catherine (Laws). It is felt that some of this information may be of interest or value to you and it is being presented for that reason.

Cane Supply

During the early part of the period it was excessively rainy and cane being delivered to the mills was unburned, trashy and usually very muddy. All mills with the exception of Alma and Catherine reported difficulties with clarification. All of the mills were forced to lower their grinding rates either because of clarification troubles or because of difficulties with trash at the mills and furnaces.

Some of these mills are washing their cane on the carrier. One mill reported that based on the insoluble solids in the water from the wash plant they estimated that they were removing four tons of mud per hour. Their grinding rate is about 65 tons per hour. Even with the best washing large quantities of soil was carried into the juices and threw a very heavy load on clarifiers and filters. Evan Hall reports that tests showed that they were losing sucrose in the washing operation. This was due apparently to the fact that their sprays are very close to their knives, and because of their high grinding rate, water did not get out of the cane before it reached the knives. Other mills should check on their wash waters to determine whether they may be suffering similar losses.

One particularly noticeable effect of the rains and trashy cane was the dilution of crusher juice samples and a consequent lowering of the normal juice Brix and Pol analyses. Because of the amount of water retained by trashy cane (whether the water be due to rain or washing) dilution of crusher samples is pronounced and it thus becomes difficult to correlate factory normal juice analyses with growers' sucrose tests.

Analytical data was further complicated during this period by the amount of mud washed into the crusher juice samples. With clay soil this material disperses in the juice and causes fictitious Brix readings. Such difficulties serve to emphasize the weakness of the system of payment for cane on the basis of normal juice sucrose.

There has been considerable discussion of the advantages and shortcomings of air operated controls on cane derricks. Alma has two derricks fitted with Westinghouse controls which are operating wonderfully well. These derricks are powered by butane powered internal combustion engines.

Milling

Mill work at most of the factories is reported as exceptionally poor this year. Among the causes cited for this difficulty are; (1) High fiber content of cane, (2) Excessive amounts of mud and trash in the cane; (3) The absence of juice in the cane. It is interesting to note that two mills which grind only fresh, unburned cane are reporting sucrose extraction, % sucrose in cane of 93%. Both mills have bagasse moistures around 45% and sucrose in bagasse around 2.50%. These mills also report yields to-date of 160 lbs. per ton cane or better. Many cases were noted of mills which were apparently improperly set. The work at Magnolia, Catherine and Alma, respectively is particularly good this year.

(Continued on Page 93)

YOUR COUNTY AGENT REPORTS

Soil Conservation Needs Immediate Consideration

by

Moore Valois, County Agent, Assumption Parish

MR. VALOIS

FOR over one hundred years the farm land of Assumption Parish has been xtensively planted into sugar cane.)uring that century one generation of armers after another has taken over he farm land with little or no diver- ion insofar as cane production is con- erned.

It is so said that many acres of As- umption's cultivable land has produced o less than 75 crops of sugar cane and t least 30 crops of corn. If we were o average the yield of those 75 cane rops at 18 tons per acre, every acre roduced a total of 1350 tons of cane. f we were to average the yield of hose 30 corn crops at 17 bushels per cre, the same acre also produced a otal of 510 bushels of corn. It is known hat for every ton of sugar cane pro- uced that 1.8 lb. of nitrogen .6 lbs. f Phosphate and 4.8 lbs. of Potash is emoved from the soil. Every bushel f corn produced removes .9 lbs. of Nitrogen, .4 lbs. of Phosphate and .3 bs. of Potash. Furthermore, it is stimated that the average annual osses of nutrients by leaching amounts o 40 lbs. Nitrogen per acre, 3 lbs. Phosphate per acre, and 67 lbs, Potash er acre. Therefore, it is reasonable to ssume from the above figures that dur- ng the past 100 years of cane and corn roduction that we have removed and ost from many acres of our crop land t total of 2889 lbs. of Nitrogen, 1014 bs. of Phosphate, and 6633 lbs. of Potash per acre.

In other words figuring from a commercial fertilizer standpoint it would take 15,500 of Nitrate of Soda, 5,000 lbs. of 20% Superphosphate and 13,200 lbs, of 50% Muriate of Potash per acre to replace the plant food lost. At the present cost of commercial fertilizer this plant food loss amounts to $1,157.00 per acre.

No doubt the question most pressing in your mind is—if we have suffered such tremendous loss of plant food, how have we maintained our soil fertility? The unfortunate answer is that we have not maintained our original soil fertility. It is true that we have added commercial fertilizers, but that has only been true in the case of nitrogen, and has been a practice for probably only the last 20-30 years. Practically no commercial phosphate and potash have ever been added. The planting of legumes in our cane-corn rotation has replaced some of the plant food lost. However, in the case of legumes, if they are not properly inoculated their drain on soil nitrogen is extremely heavy. Probably the greatest benefit derived from legumes has been to maintain a fair amount organic matter in our soil.

This condition does not only apply to the farm land of Assumption Parish, but to practically every acre of cultivable land in the United States. Our greatest heritage has been fertile soils. Have we not, during the past century, been guilty of exploiting our

farm land, rather than been conservative of its fertility and productivity. Now, more than ever, we can see and feel the effects of farm land poverty. Food, fibre and feed (all products of the good Earth) have played a greater role in winning the war than any other single thing. Food will no doubt decide the fate of a greater portion of the nations of the world.

Farmers cry about trashy cane; they are deeply concerned about the future of sugar, corn, cotton, and other agricultural products; they are even interested in the coming political fights. We are deeply concerned about many matters except one, the conservation of our soils, the one thing which has alone made us all richer, healthier and happier. It is not easy to forget or overlook an empty pantry, or a bare dinner table, or an over-drawn bank account, but we have no trouble in forgetting the slow dying fertility of our soil. We sleep soundly as our richest soil is washed into our streams. As we harvest each crop we beam with pride if it is a large one, unmindful of the fact that the heavier the crop the poorer is our soil.

The farm land of Assumption Parish, (and I am sure it is true throughout the Cane Belt) is fast becoming less productive. Of Assumption's 52,565 acres of crop land over 16,000 acres are heavily infested with Johnson Grass and Alligator Weeds alone, 26,000 acres need better drainage, and over 40,000 acres need soil building or better management.

Only since the last 3 or 4 years have the farmers of Assumption Parish been realizing the seriousness of these conditions. A few of the most progressive and far-sighted farmers have already mapped-out and launched their program of soil conservation and better land management. For example, one particular cane farmer increased his sugar cane yield in 1947 from an 11-ton per acre average to a 25-ton per acre average in one year of summer-fallow plowing, weed control, better drainage, and better general care of his crop land. 1948 will see a greater movement in that direction. After 10 years of soil-depletion, we are only now realizing and understanding what has happened to our fertile farm land.

I write this not to advertise our trends of thoughts nor merely to pass time away, but definitely to encourage those of you who have not already done so—"to take an inventory of your farm land, to study its condition, and to make efforts to improve its productivity." May I quote R. A. Wasson, La. Ext. Agronomist, and H. S. Edmiston, La. Ext. Soil Conservationist: "It always requires some simple arithmetic to keep up with our bank account. Let's apply the same principle to our soil fertility account and stop the hap-hazard business of guessing."

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CROP NEWS BY PARISHES

from

COUNTY AGENTS

Unfavorable weather has continued o harass the cane farmers and factory perators throughout the fifteen days nce your county agent's last report nd it is a sure bet now that 1947 will o into the record book as a very dis-ppointing one for the Louisiana sugar ıdustry.

Despite all this stress and strain we re going to go right ahead and ex-ress the hope that all of our readers ill enjoy a very Merry Christmas and ıat the year 1948 will produce a big-er and better cane crop and much bet-:r weather.

We also want to take this opportunity o again thank the men whom we now are your friends, and we hope re our friends, the County Agents, for ıeir fine co-operation in supplying *The ugar Bulletin* with reports on the con-ition of the cane crop. May they all ıjoy a Merry Christmas and a Happy ıd Prosperous New Year.

Assumption Parish. Moore Va-ois, who has a very interesting article ı this issue about soil conservation, eported from Assumption Parish on)ecember 8th that the cane crop in is district was about 70 per cent com-leted with an estimated grinding to ıat date of 350,00 tons of cane. Su-ose is running about 12.7 per cent and urity is averaging around 77 per cent. ane production is averaging about 16 ons to the acre. Mr. Valois reported ıe mud and trash situation as improv-ıg on December 8th.

West Baton Rouge Parish. A eport from A. E. Camus, dated Decem-er 8th, states that the grinding cam-aign in his district was about 80 per ent completed on that date with some 78,000 tons of cane milled. The su-ose is holding around 12 per cent ıd the purity about 75 per cent. He states that the mud and trash situation in West Baton Rouge Parish has not improved.

Iberia Parish. W. E. Williams reported from Iberia Parish on December 8th that from 60 to 64 per cent of the cane crop in his district had been milled to that date. The cane production per acre is running between 13 and 16 tons, and the sugar production per ton of cane between 145 and 155 pounds. The sucrose average is about 12 per cent and the purity about 76 per cent. About 200,000 tons of cane had been milled in his district to December 8th. The mud and trash situation was reported as improving.

Lafourche Parish. The grinding campaign in Lafourche Parish was about 60 per cent completed on December 8th, according to a report received from A. C. Moreau, who states that the mills in his district had ground approximately 407,000 tons of cane up to that time. Mr. Moreau says that the mud and trash situation had improved but that the recent rains will cause additional trouble. The canes in his district are producing about 17 tons to the acre, and these are ranging from 12 to 13 per cent in sucrose and 78 to 80 per cent in purity. The sugar production is running from 144 to 178 pounds to the ton of cane.

St. Landry Parish. From St. Landry Parish, A. K. Smith, Jr., advised on December 8th that the harvest in his district was 98 per cent completed with the canes averaging from 12 to 14 tons to the acre.

St. John Parish. Otis J. Broussard reported from St. John Parish on December 8th that the grinding campaign in his district was about 50 per cent completed on that date with approximately 102,000 tons of cane milled. Cane production is averaging about

17 tons to the acre with the sucrose running about 12 per cent and the purity about 76 per cent. The sugar production is averaging about 162 pounds to the ton of cane. Mr. Broussard reports that the mud and trash situation has not improved.

Pointe Coupee Parish. Harvesting operations in Pointe Coupee Parish will be completed on about December 22nd, weather permitting, according to a report dated December 9th from A. B. Curet. Mr. Curet says that the cane tonnage is expected to average about 17 tons of cane to the acre. Sucrose is running from 12 to 13 per cent and purity is averaging about 78 per cent in his district.

Ascension Parish. The grinding campaign in Ascension Parish was about 65 per cent completed on December 8th, according to a report from E. S. Landry, with about 100,000 tons of cane ground to that date. The production of cane is averaging about 15 tons to the acre and the sugar production per ton of cane is averaging about 160 pounds. The canes are testing about 12 per cent in sucrose with a purity of about 76 per cent.

St. James Parish. Joseph Lamendola, reporting from St. James Parish on December 10th, advises us that the grinding campaign in his district was about 65 per cent completed on that date with some 155,000 tons of cane milled. The canes are averaging 17.5 tons to the acre and testing about 12 per cent in sucrose and 75 per cent in purity. The mud and trash situation is not improving.

SUGAR PRODUCTION TO DECEMBER 6th

We are indebted to Dr. W. M. Grayson, Chief of the Louisiana Sugar Division of the Production and Marketing Administration, for the following information on the progress of the grinding campaign.

Dr. Grayson advises us that th actual production of sugar, in the ba in Louisiana, through the week endi December 6th, amounted to 168,8(tons, raw value.

The cane ground to process this sug amounted to 2,500,000 tons.

Dr. Grayson explains that these fi ures do not include the sugar in pr cess at the mills, which, he says, considerable.

News of Events

Nov. 26, 1947: Meeting of th Executive Committee of the Americ Sugar Cane League in room 317, th Whitney Building, New Orleans, La.

Mr. E. W. McNeil, Chairman of th Labor Committee and J. J. Munso Chairman of the Legislative Committe were authorized to represent the Leagu at all congressional hearings on the Fa Labor Standards Act that are to h held during the coming year.

A Cooperative Agreement submitte by Dr. Brandes, relative to the $15 000.00 contribution of the League assist the Government in cane bree ing work, was reviewed and certa changes in the text of the agreeme suggested.

President Foster appointed a Cor mittee to survey the fertilizer situatio

Mr. C. J. Bourg was requested to t to find some avenue of relief for th processors relative to the numero questionnaires and daily reports d manded by the Alcohol Unit of the I ternal Revenue Department.

Mr. Marcel J. Voorhies was request to write to the Director of the Expe ment Station at Louisiana State Un versity requesting that Dr. Efferson authorized to prepare as early as pos ble, a detailed cost study of the produ tion of raw sugar for 1947.

The Executive Committee as a whc was appointed a committee to represe

the League at the ceremonies held at the Houma Experiment Station on December 3rd, at which a Unit Citation by the Secretary of Agriculture was conferred on the members of the Houma staff.

Mr. J. J. Munson, Chairman of the Legislative Committee, was requested to handle, in conjunction with Mr. Bourg, all matters relative to the hearings in Washington on marketing allotments.

THE MARKETS

Quotations in the future market for sugar have continued their downward trend throughout the fifteen day period since our last report and it now appears that the only development that may change the present course of the Number 5 contract will be a very conservative fixing of quotas for the American market by the United States Secretary of Agriculture.

Public hearings in connection with the determination of the 1948 sugar consumption requirements for continental United States and the establishment of marketing quotas are scheduled to begin in Washington on December 16th and the Secretary of Agriculture has until the middle of January to announce his quota decisions.

The Cuban Government has not yet made an official announcement about the size of the 1948 Cuban sugar production but a report on November 26th stated that Cuban mill owners and producers had agreed to set marketing allotments at 5,963,000 tons, which means that there will be another six million ton sugar crop in Cuba next year. Add to this the fact that the Philippine production is expanding rapidly and it can readily be seen that the Sugar Act of 1948, and the Administration's tariff reduction policies, are going to be put to a severe test in the not too distant future.

The sales of actual sugars recorded since November 25th consisted of 2,000 tons of Philippine raws for February shipment at 5.825 cents a pound delivered to National; 20,000 bags of Cuban raws for February shipment to the American at New Orleans at 5.25 c.i.f. (Equivalent to 5.72 cents a pound duty paid); and a rumored sale of Cubas at 5.20 cents a pound c.i.f., the particulars of which are lacking.

The closing quotations today in the future market place May at 5.21, which is down 20 points since November 25th. July is 5.21, down 20 points; September is 5.22, down 21 points; December is 5.16, down 27 points; and March 1949 is 4.92, which is a drop of 21 points during the fifteen day period since our last report.

Louisiana Quotations

Two more weeks of the Louisiana marketing season have passed without a spot sale of raws being recorded and the raw sugar quotation at New Orleans has remained unchanged at 6.32 cents a pound delivered. Seven weeks now remain in the cane contract period.

(Continued on Page 92)

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EVAPORATOR SCALE

by

C. W. Stewart

The formation of scale on the heating surfaces used for the evaporation of cane juices in a cane sugar factory has long been a major problem in the sugar industry. Scale is a poor conductor of heat. Its formation on heating surfaces reduces the rate of heat transfer and consequently, evaporation rate.

Prinsen Geerligs has made a study of evaporator incrustation and he states that there are two conditions which contribute to the formation of evaporator scale in the raw sugar process.

The first of these conditions is the clarity of the juices. If juices are poorly clarified and a high percentage of collodial material is left in suspension, or if the juices have been poorly decanted, allowing mud and Bagacillo to pass on to evaporators, the tubes of the first body, and to some extent, those of the second body become coated with scale. Dr. Geerligs made a test with filtered juice. By filtration a large amount of the colloidal or suspended matter was removed and during evaporation the first body of the evaporator accumulated a very small amount of scale. The chief scale forming elements in the 1st and 2nd bodies seems to be organic material and calcium phosphate. In the 3rd and 4th bodies Silica is the predominating constituent. Some of the scale forming elements found in juice seem to be held in solution in the thin juice but are displaced as concentration continues.

Table I gives the analysis by Prinsen Geerligs of scale in the various bodies of a quadruple effect evaporator. These figures were later corroborated by Bogtstra and are quoted by Spencer and Meade in their Handbook for Sugar Chemists.

No reference is made, in the literature available, to the prevention of scale, other than stressing the importance of clean clarification. The main emphasis has been placed on the scale removal or cleaning at regular intervals to prevent the formation of heavy incrustations. In most cases this has resulted in the weekly factory cleaning. This cleaning period usually requires 12 hours which is lost for grinding and also necessitates an expenditure for labor, chemicals, and fuel. In a grinding season of 75 days, weekly shut-downs for cleaning would mean the loss of 5 full days grinding time. This could mean the loss of a considerable amount of cane due to freezes and spoilage. It would be hard to compile an accurate cost figure to cover the loss incurred by scale formation on heating surfaces.

Table I

	1st body Percent	2nd body Percent	3rd body Percent	4th body Percent
Calcium phosphate	57.85	56.98	15.02	7.49
Calcium sulfate	2.02	1.92	0.54	1.65
Calcium carbonate	3.25	4.68	19.55	9.93
Calcium silicate	7.86	13.31	0.71	7.02
Calcium oxalate	——	——	11.32	11.27
Iron oxide	2.03	1.53	2.31	2.58
Silica	7.79	7.43	39.26	54.34
Combustible Matter	20.37	13.41	11.04	5.08

Considerable success has been obtained in combating scale formation in the evaporation of sweet water at the Chalmette Refinery.

The use of Tetra-phospho Glucosate at Chalmette is discussed by Messrs. Fitzwilliam and Yearwood in their publication appearing in the January, 1947 issue of Sugar. An investigation was made by them at the Imperial College of Tropical Agriculture, Trinidad. Their conclusion was that a full scale factory trial would be necessary to determine the value of Tetra-phospho Glucosate as a scale preventer.

In 1945 at the Audubon Sugar Factory, I introduced Tetra-phospho Glucosate into clarified juice at the rate of 2.52 pounds per 100 tons cane. The test was continued for three weeks with

no apparent decrease in evaporation rate. At the end of that time the test was discontinued because of other scheduled experiments. We were unable to develop any conclusive data on the experiment but from observation the material (T. F. G.) seemed to aid in maintaining our normal evaporating rate for the entire period of the test.

I have in my files some correspondence with three Commercial Companies regarding their experience with Tetraphospho Glucosate as a scale preventative in juice evaporation.

Mr. Thomas Holmes writes, under the date of February 26, 1946: I used Tetra-phospho Glucosate as a scale preventative during the season of 1945 at the Evangeline Sugar Factory. It was added to the clear juice at the rate of .9 pounds per 100 tons cane. The test began October 22 and continued through December 10, with no stop being made for cleaning. On December 10, due to mechanical troubles, the plant was closed down for repair, and at that time the evaporator an 8′ quad, had completed fifty consecutive days of operation, evaporating 800 tons of juice per day. After December 10 the grinding was continued for a number of days, and on completion of the season an inspection of the evaporators was made. The 1st and 2nd bodies were found to be clean, the 3rd body slightly scaled, and the 4th showed a heavier deposit especially near the bottom of the tubes. Mr. Holmes closes his comments by stating that the company has arranged to use the material during the succeeding season.

Mr. A. J. Isacks, vice president of Realty Operators, writes: "We started using Tetra-phospho Glucosate at the beginning of the crop and ran for 13 days with the syrup at 60 Brix, but we wanted to see how the evaporator looked so we stopped and boiled out and found a rather slight scale on the tubes. On this first run we used approximately two pounds per hundred tons of cane, but it was recommended that we reduce this to one pound per hundred tons of cane, which we did. On the next run we ran three weeks at a greater grinding rate and were still able to pump syrup at 56 Brix running full capacity. After the three weeks run we noticed a little heavier scale than the first run, but the scale was easily removed. The last run was for about 23 days, still grinding at a higher rate, the average Brix for the run being 60.5. During this last run we ground over 48,000 tons of cane.

From this you will see that our experience has been that the formation of scale is lessened by the use of Tetraphopho Glucosate, and we are very well pleased with the results obtained."

Mr. Etheredge, superintendent of Valentine, has the following comment: "We used Tetrafosforg throughout the recent grinding season, adding it at the rate of about 3/4 pound per 100 tons of cane. To facilitate adding the material in the right proportion, we diluted 12 pounds with about 25 gallons of water and ran a small stream of the dilute liquid into the clarified juice leaving the Graver clarifier.

Formerly, Valentine generally cleaned weekly and I understand, was troubled considerably with scale in the evaporators. The last season, we cleaned at least every two weeks. However, at the end of two weeks, operations we were still pumping 60 Brix syrup. It was noted that scale formed in the evaporators by the end of the first week, but only of the thickness of ordinary writing paper. Soda and acid removed the scale quite satisfactorily.

Without question, much less scale formed in the evaporators the last grinding season than before, but we cannot attribute all of the improvements to the Tetrafosforg because our clarification was much better the past year than it had been previously. Formerly, open settlers had been used; the past season we operated new Graver clarifiers. However, we feel confident that the chemical was quite helpful and intend to continue its use."

I continued the use of Tetra-phospho glucosate at the Audubon Sugar Factory during the 1946 season. An attempt

was made to secure a number of evaporation rates on the evaporators during the test period. The results varied so radically that they were discarded. The actual performance of the evaporator was very good however and our cleaning periods were reduced.

As time goes on and the chemical companies who are experimenting with cane sugar factory evaporator scale learn more about it we may expect more and better products with which to combat it.

From the Quarterly Bulletin of The American Society of Sugar Cane Technologists.

—o—

HOUMA STATION HONORED

An important meeting was held in the auditorium of the Houma Sugar Experiment Station on December 3rd when Mr. W. A. Minor, Assistant to the Secretary of Agriculture presented a Unit Citation and Superior Service Award from the Department of Agriculture to the Houma Station for its outstanding work in sugar plant investigations, sugar cane production, cane breeding, cane disease work and other investigations.

Prior to the presentation of the award short talks were made by Dr. P. B. Cardon, Assistant to the Chief, Bureau of Plant Industry, Soils and Agricultural Engineering, U. S. Department of Agriculture; Mr. Ralph Roberts, Assistant Director, Office of Budget and Finance, U. S. Department of Agriculture; Mr. J. J. Shaffer, Jr., Past President of the American Sugar Cane League, representing the Sugar Industry; and Mr. Elliott Jones, Vice Chairman, Contact Committee, American Sugar Cane League, also representing the Sugar Industry.

Members of the Houma Experiment Station staff who were present when the Unit Citation was made were Dr. George Arceneaux; Dr. J. I. Lauritzen, Dr. E. V. Abbott, Dr. E. M. Summers, Dr. L. G. Davidson, Dr. L. P. Hebert, and Dr. L. C. Mayeaux.

The Markets

(Continued from Page 89)

The prompt shipment sales of Louisiana blackstrap molasses have been as follows:

November 28th. A quotable sale at 28 cents a gollon in bulk f.o.b. plantation.

December 1st. A quotable sale at 27 cents a gallon in bulk f.o.b. plantation.

December 2nd. A quotable sale at 28 cents a gallon in bulk f.o.b. plantation.

December 4th. A quotable sale at 28 cents a gallon in bulk f.o.b. plantation.

December 5th. A quotable sale at 28 cents a gallon in bulk f.o.b. plantation.

December 9th. A quotable sale at 28 cents a gallon in bulk f.o.b. plantation.

Weekly average prices since the start of the grinding season, issued by the Cane Products Trade Association, have been as follows:

For the week ending October 9th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 16th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 23rd. Raws 6.32. Blackstrap 25 cents.

For the week ending October 30th. Raws 6.32. Blackstrap 25.90 cents.

For the week ending November 6th. Raws 6.32. Blackstrap 26 cents.

For the week ending November 13th. Raws 6.32. Blackstrap 26.25.

For the week ending November 20th. Raws 6.32. Blackstrap 27.00 cents.

For the week ending November 27th. Raws 6.32. Blackstrap 27.00 cents

For the week ending December 4th Raws 6.32. Blackstrap 27.80 cents.

For the week ending December 11th Raws 6.32. Blackstrap 28.00 cents.

The average price of raw sugar for the first ten weeks of the cane purchase contract period is 6.32 cents a pound.

The average price of Louisiana blackstrap molasses for the ten weeks ending December 11th is 25.895 cents a gallon

—o—

Now if some scientist would just figure a way to make it *stop* raining . . .

)bservations on Sugar 'actory Operations

(Continued from Page 84)

An interesting innovation this season the installation of a steam turbine rive on the last mill at Lula. This stallation has functioned perfectly to- ate and appears to be a complete iccess. Every engineer or manager ho has the opportunity should see is installation in operation. Mr. harles Savoie stated that he will be ad to receive visitors.

Clarification

The difficulties during the rainy spell ith excessive volumes of mud have ready been mentioned. These diffi- ılties appear to be seriously aggra- ıted by the recirculation of mud in ıe filtrate from the Oliver rotary filter. wo schemes to improve clarification ere found which seem worthy of con- deration. Lula limes the mud from ıe clarifier before it goes to the filter. his appears to thicken the mud and give a filtrate which will flock and ttle much better than will unlimed aterial. Evan Hall lowers the density the dilute juice by heavy maceration by adding water to the juice. By eeping the Brix of the clarified juice ound eleven they obtained faster ttling.

Pan Work

Valentine has installed on its four ans the pan control instruments de- eloped by Alfred Webre of the United tates Cast Iron Pipe & Foundry Co. hese consist of an absolute pressure ıge and a very sensitive dial type ıermometer plus a series of special ıarts relating absolute pressure and assecuite temperature to the concen- ation of the massecuite in the pan. t Valentine the instruments are being sed to grain all strikes by "seeding". rystallizer strikes are boiled on grain rmed from "A" molasses. The oper- ion of the instruments is simple and pparently quite satisfactory. For any- ıe interested in improving and simpli- ing pan operation a visit to Valentine ould be well worth while. Mr. Barker

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stated that he would be glad to receiv visitors.

Bulk Sugar

Three co-operative mills, Iberia, S James and Helvetia are selling the sugar in bulk this year. The first tw are shipping to American at New O leans and Helvetia is shipping to Goc chaux at Reserve. Colonial at Gran ercy is also receiving sugar in bul Generally, this operation has prove very satisfactory to both seller an buyer and we can expect to see mo and more sugar handled this way eac year.

Bulk Bagasse

Caldwell Sugars is selling a part c its bagasse to Celotex in bulk. Th bagasse is simply dumped into an ope top car with steel cane racks mounte on it. Such cars carry about 25 ton of bagasse without difficulty. Arman I understand, is moving its surplus i the same manner.

Both bulk bagasse and bulk sug emphasize the need of the factory f a railroad scale for checking the weigh on such shipments.

Cane Cleaning

The Houma Station, USDA, M Ramp has developed and expects t have ready for field testing this crop machine for removing tops and leav from cut cane. The present machi appears to have great possibilities. would be attached to an existi Thompson or Thornton Harvester b would have a separate power unit, (twenty horse power engine). It is co templated that the cleaned cane wou be loaded directly and continuously i to a cart.

Mr. Ramp is anxious to have inte ested persons examine the machine an offer any suggestions or criticism which might be helpful in perfecti the idea.

Footnote—The above report by D Keller was issued on December 3r 1947.

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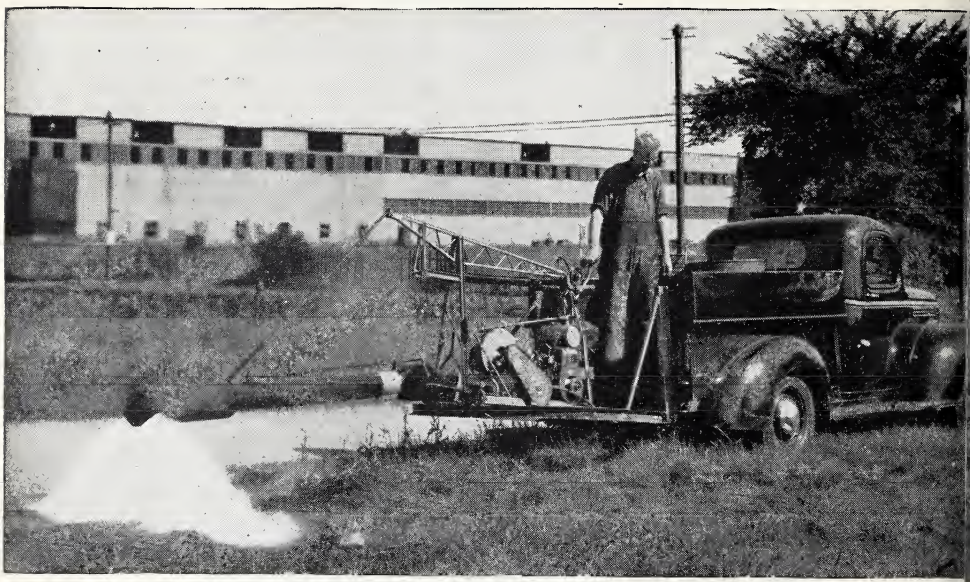

The above picture shows the Model "A" mounted on circular track which, in tu is bolted to truck body floor for straight-away burning. When so mounted the bu er unit can be swung through an arc of 180 degrees by the operator. The low picture with the same mounting shows the burned set at an angle with a spec burner head adapted for ditch and ditch bank burning.

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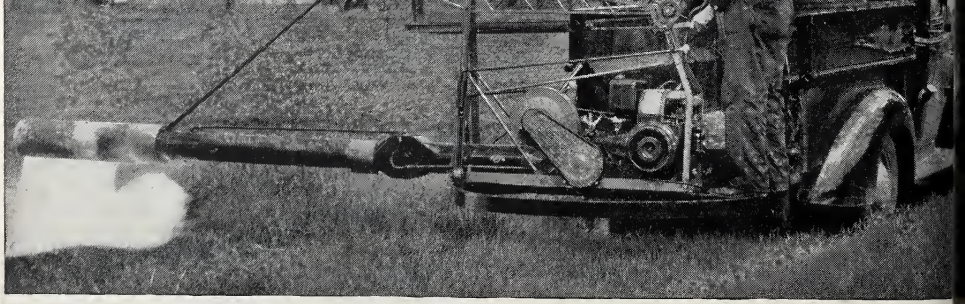

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THE SUGAR BULLETIN

d as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., JANUARY 1, 1948 No. 7

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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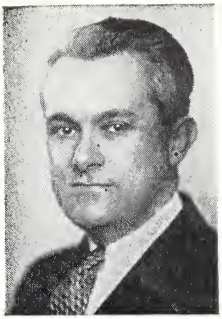
IN WASHINGTON WITH C. J. BOURG



THE hearings on the 1948 Consumption Estimate were held in Washington on December 16th. The Department of Agriculture made no statement of policy or objective. The order of appearance of witnesses was determined by lots.

Mr. Oliver appeared for the American Sugar Refining Company and submitted a figure of 8,000,000 tons, with supporting statistics.

Mr. H. O. Smith appeared for the group of Large Industrial Users and submitted an elaboration of statistics, out of which he recommended an estimate of 8,500,000 tons. He was followed on the stand by Payton of the Chocolate Institute, Hibben of Ice Cream Manufacturers, Creed of the Bakers, Riley of Bottlers of Carbonated Beverages, and Stemfel of the Confectioners. Each one sought to justify the 8½ million figures on the basis of his particular industry's use.

Several of these witnesses stated that they had been invited by George Dice of the Sugar Branch to discuss the 1948 consumption prospects. As a result of this meeting, each industry made a survey of expected use. This gave the impression to some that the Sugar Branch was encouraging the presentation of a strong case for a high estimate by these large users. Others, including the writer, felt that this could be a move to demonstrate full and complete consideration of the consumer point of view by the Secretary.

In presenting the 8½ million ton figure, Smith claimed that this would insure stabilization of supplies for consumers and stabilization of price for producers. Elvove asked him, quite pertinently I thought, whether he considered the present price as "stabilized". Smith became evasive and weakened his presentation. Later, Marshall sought to get some expression on price levels but the industrial users would not specify.

Dr. Manas appeared for Cuba and he also advocated a big estimate so Cuba would be permitted to harvest a maximum crop again in 1948. Dave Kaiser of the Cuban Council supported this point of view and referred approvingly to the 8,500,000 figures.

Three sugar beet growers from the West next appeared and emphasized the interest of the growers in the maintenance of a fair and reasonable price for sugar and sugar beets. They also stressed the importance of the use of the Consumers' Price Index. The relationship between the cost of production and the price of sugar during 1947.

A representative of the A. F. of L. spoke from the consumer standpoint, although he did recognize the need for a sufficient price to pay fair wages.

Just before adjournment, Dudley Smith for Puerto Rico, Bob Shields for U. S. Beet Sugar Association and the writer filed written statements.

Nothing sensational developed. No specific figure was proposed by domes-

(Continued on Page 109)

LEAGUE FILES BRIEF RELATIVE TO SUGAR MARKETIN QUOTAS

Presentation by the American Sugar Cane League At Public Hearing called on December 16, 1947 by the Secretary of Agriculture under the Provisions of the Sugar Act of 1948, With Particular Reference to Section 201

THE American Sugar Cane League considers it appropriate to invite attention to the unusual circumstances under which these hearings are being held. During the 12-month period of November, 1946 through October, 1947 there has been some form of Government controls over the distribution and price of sugar. Rationing for household consumers was continued in effect until June 12, 1947. Rationing for industrial users continued to July 28, 1947, and inventory controls were maintained until the end of August. Price controls were in effect during the entire 12-month period ending October 31, 1947. Obviously the consumption of sugar during the 12-month period, November, 1946 through October, 1947 could not be considered as normal or representative for the purpose of determining the probable consumption in 1948. Conditions in 1948 will no longer be subject to the immediate effects of rationing or of price ceilings. In the years subsequent to 1948, each previous 12-month period can be used as a basic yardstick with much greater accuracy since the conditions of Government control will be relatively similar and the consumption experience much more comparable.

These facts and others hereinafter recited are naturally very well known to the Secretary of Agriculture and to his advisors, but we repeat them at this hearing in order that the public record may contain a review of significant events or facts essential to a comprehensive understanding of all influences affecting or likely to affect the consumption requirements in the United States during 1948.

Any approach to the problem of estimating the consumptive needs of American consumers during a calendar year requires as a basis for primary consideration knowledge of the stocks or inventories which are carried over at the beginning of the year. Never before has any year ended with so much uncertainty in trade circles regarding the supplies of sugar in the households of the nation, and in the warehouses of small industrial users or of wholesalers and retailers of the nation. Some doubt and confusion has resulted from the fact that under the rationing program which continued for sugar over five years, these hidden supplies had been reduced to a nominal figure as compared to the entire experience of the years prior to 1942. When rationing went out of existence in June, there was a marked increase in sugar deliveries but it is not known whether these increased deliveries went into actual consumption or into "invisible" stocks on the shelves of retail stores and of household pantries, or in private warehouses throughout the country.

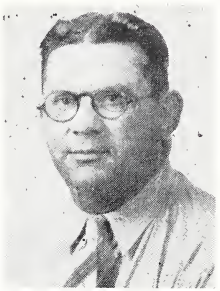
According to the provisions of Section 201, when making the determination of the amount of sugar needed to meet the requirements of consumers in the United States during 194 the Secretary of Agriculture shall use as a basis the quantity of sugar distributed for consumption during the 12-month period ending October 3 1947, as indicated by official statistics of the Department of Agriculture. He is directed by the Sugar Act to make allowances for deficiency or surplus of inventory in sugar, and for changes in consumption because of changes in population and demand conditions, likewise to be computed from statistics of agencies of the Federal Governmen Accordingly, it becomes obvious to any one preparing to appear at this public hearing that any suggestions or recommendations to be made must necessar

YOUR COUNTY AGENT REPORTS

The Farm Lands of Ascension Parish

by

E. S. Landry, County Agent



MR. LANDRY

THE farm lands of Ascension Parish are suited to the growing of all money crops grown in the state of Louisiana; but the main money crops of the parish are sugarcane, rice, strawberries, and truck crops. These crops are supplemented by livestock, corn, oats, hay crops, and pastures.

The sugarcane acreage for 1947 has increased approximately 1000 acres over last year's 12,759 acres. This increase in acreage will be more than offset by lower yields this past year, and it is estimated that the final tonnage will be about 25% lower than the 1946 crop of 208,604 tons, of which 195,275 tons were processed into sugar and 13,329 tons were processed into syrup.

The outlook for 1948 crop indicates that the acreage planted to sugarcane will be as large, and that with normal growing conditions the total yield will be considerably higher by as much as 20 to 25% especially if fertilizer supplies are maintained. Ascension Parish growers are being asked to follow recommendations of the Louisiana Experiment Station as to cultural and fertilizer recommendations.

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y be based upon the statistics and the acts which are available to the Secretary of Agriculture. At the time of this preparation prior to public hearing, much of the statistics and data which re to form the basis of the Secretary's tudy and determination have not been ublished or made available. Due to he unusual circumstances referred to n our opening remarks, and without he benefit of having before us the complete statistics upon which an estimate ill be made, it becomes extremely difficult, if not practically impossible, to ecommend specifically what the estimate of consumption for 1948 should e.

Several of the facts specified by the ugar Act to be taken into consideraon by the Secretary in making his estimate of consumption will depend to a onsiderable extent upon Government plans with respect to domestic programs as well as to programs involving exports and attempts to provide food and economic relief to other nations of the world. To a large extent, these plans are still in the formative stage or have not been publicly announced. Similarly, the business outlook and the trends affecting the national economy, with special reference to general costs of production and prices, will be given appropriate weight when determining such things as the probable consumer buying power, or what may become necessary in providing for the maintenance of the domestic sugar industry. Again, the information available within Government circles is, in some instances, on a secret or confidential basis and not within the knowledge of persons engaged in the industry or at least not known as definitely as by the

Secretary and his advisors. Consequently, the industry spokesman cannot be expected to be as well qualified to make specific recommendations.

Section 201 further provides that when making his estimate, due consideration shall be given by the Secretary to protect the welfare of consumers and all those engaged in the domestic sugar industry. The law states that in addition to the consumption, inventory, population, and demand conditions, and the level and trend of consumer purchasing power, the Secretary shall take into consideration the relationship between prices at wholesale for refined sugar that would result from his determination and the general cost of living in the United States, as compared with the relationship between prices and the general cost of living obtained during 1947 prior to termination of price control. This relationship between sugar prices and living costs will be as indicated by the Consumers' Price Index published by the Department of Labor. This standard of price measurement appears in the law for the first time since quotas were established in 1934. However, a similar standard was included in the contract between the Governments of the United States and Cuba under which the 1946 and 1947 sugar crops of Cuba were purchased and priced. The Secretary of Agriculture exercising the authority granted him by Congress to control the price of sugar, and in fairness to the domestic producers of sugar, established price ceilings during 1947 and up to October 31st based upon the cost of living standards substantially as used in determining the price of sugar under the Cuban contract. The fairness of this action to the consumer, as well as to the domestic producer was demonstrated when, following the termination of Government price controls, the levels established under such controls were maintained in the sugar markets throughout the United States, both with respect to refined cane and beet sugar and with respect to raw sugar.

Actually, the exact provisions of the Cuban contract establishing the cost of living index as the measure of price would have resulted in a somewhat higher price but for the action of the Secretary of Agriculture in reaching an agreement whereby the Cubans accepted less than what would have been the index price settlement for Cuban sugars of the 1947 crop.

The fairness of maintaining the relationship between the price of sugar and general living costs as indicated by the Consumers' Price Index was recognized by Congress when it passed the Sugar Act of 1948, and likewise recognized by the President of the United States when he signed the Act. This action by the Congress and the President was in the nature of official approval and ratification of the action of the Secretary of Agriculture when he purchased the Cuban crops of 1946 and 1947 based upon a price adjustable to the cost of living in the United States, which pricing principle the Secretary later applied to domestic sugars when fixing price ceilings.

Thus, the supposedly conflicting and opposing interests of the consumer and the producer were in fact merged in compromise with protection and fairness for both, by the maintenance in 1948 of a direct relationship between living costs and price. The same price level are being maintained today without direct Government price controls, and under the free enterprise principle as it applied to the sugar industry prior to the war years and again exists today.

It is obvious, and it has been the experience of the administrators of the sugar quota system, that a reasonable conservative initial estimate of consumption provides the safer course to follow in the administration of the program. An estimate which turns out to have been excessive, however, well intentioned and supported by statistics becomes extremely difficult to adjust or correct after quotas have been assigned and marketing allotments determined. Exercising caution when making the estimate at the beginning of the year brings no hardship to anyone and can be increased promptly should there be indicated a tendency unfavorable

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CROP NEWS BY PARISHES

from

COUNTY AGENTS

The entire Louisiana sugar district has been favored with fairly good weather during the two weeks since your county agent's last report even though some rain did fall to dampen the already too damp fields. General conditions have been better than they have been for a long time and much more normal than any that we have had since the first of November.

The holiday season has reduced the number of reports from the country parishes but we hope those that we have been able to include in this issue will continue to show the progress of the grinding campaign.

St. Landry Parish. A. K. Smith, Jr., reported on December 24th that harvesting operations in his district were completed and that the canes in St. Landry Parish have averaged about 14 tons to the acre. There are no sugar mills in this Parish.

Pointe Coupee Parish. The grinding campaign in Pointe Coupee Parish was 99 per cent completed on December 24th, according to a report from A. B. Curet, with about 185,000 tons of cane milled to that date. The canes have averaged about 17 tons to the acre, and the sucrose is running betwee 13 and 14 per cent. The production of sugar per ton of cane has averaged about 130 pounds.

St. John Parish. Reporting from St. John Parish on December 29th, Otis J. Broussard advised us that the grinding campaign in his district was about eighty per cent completed with one mill, San Francisco, already finished. About 142,800 tons of cane had been milled in St. John Parish to December 29th. Cane production has averaged about 17 tons to the acre with the sucrose average about 12.5 and the purity average about 78 per cent. The sugar production per ton of cane had been about 152 pounds.

Assumption Parish. Moore Valois reports that the grinding campaign in Assumption was about 94 per cent completed on December 29th with 490,000 tons of cane milled to that date. All the mills in his territory were still grinding on the day of the report but two were expected to complete their operations by December 31st. The canes have been averaging about 16 tons to the acre with sucrose about 11.95 and purity about 77 per cent. Sugar production per ton of cane is averaging about 145 pounds.

Iberia Parish. W. E. Williams estimated on December 29th that the grinding campaign in Iberia Parish was about ninety per cent completed with some 310,000 tons of cane milled to that date. The sucrose content of the canes is averaging between 11.6 and 12 per cent and purity is running between 75 and 78 per cent. The sugar production in Iberia Parish has averaged from 145 to 150 pounds to the ton of cane and the cane production per acre has been between 13 and 14 tons. Mr. Williams reports that the Duhe and Bourgeois mill completed grinding operations on December 27th, and that the Vida Sugar Company plant finished its campaign on December 28th.

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Sugar Production to Dec. 27th

The total sugar production, in the bag, in Louisiana through December 27th amounted to 476,741,296 pounds (about 238,370 tons) according to a report received from the office of Dr. W. M. Grayson, Chief of the Louisiana Sugar Division of the Production and Marketing Administration. The report states that 3,430,369 tons of cane had been ground through December 27th and that eight mills had finished their grinding operations by that date. As we understand it these figures represent the sugar actually bagged, or ready for shipment, and does not include sugars in process at the mills.

SECRETARY ANDERSON DISCUSSES WORLD FOOD CRISIS AND AMERICAN AGRICULTURE

"The success of American foreign policy today rests in a large measure on the shoulders of farm people," Secretary of Agriculture Clinton P. Anderson said recently in a talk at the 25th Annual Agricultural Outlook Conference of the Department of Agriculture. "If the Marshall Plan for European rehabitation is put into effect this situation will continue for at least four more years," he added.

In discussing the implications of the Marshall Plan for American agriculture, Secretary Anderson said that the exact extent to which we could or would attempt to meet the requests drawn up by the 16 Western European nations was yet to be determined. "But the first analysis indicates," he said, "that if funds are supplied to finance aid at approximately the requested level, it would have these three effects on our agriculture:

"First, it would mean continued high food production from the United States during all four years—particularly in the grain producing areas of the Nation. It probably would not have too direct an effect on demand for some of the more expensive or more perishable agricultural commodities, but in general it would require continued full use of the farm plant.

Second, it would continue the strain on our grain producing areas and further delay needed shifts to grassland agriculture.

Third, it would mean a self-supporting European market for our farm products following the four-year period considerably larger than could otherwise be expected.

In considering plans for European rehabilitation, he said that any conceivable plan leaves large segments of the world too vulnerable to United States weather. "The drought of 1933 cut U. S. wheat production 40 per cent below the good weather year of 1931," he said. "And this happened in spite of the fact that more wheat was planted in 1933 than in 1931. In fact, we had wheat failures in both 1933 and 1934. This vulnerability is brought home by the present bad weather in our winter wheat area. So long as the grain producing areas of the United States stand as the chief bulwark against starvation in large areas of the world, this dangerous situation will continue. For the protection of the rest of the world, as well as our own good, we must aid in reestablishing other food producing areas of the world as rapidly as possible."

Secretary Anderson added that the plans proposed by the Western European nations include provisions for widespread aid from nations other than the United States. In addition, the cooperating nations state that if the requested aid—particularly fertilizer and farm machinery—is furnished they would expect to have their agricultural production up to about prewar level by 1950-51.

Secretary Anderson described the tremendous amount of work which was being done in checking and further amplifying the detailed provisions of the European proposals. He reaffirmed Secretary Marshall's statement that definite plans formulated on the basis of the proposals will be truly a product of the entire Executive Branch. "This work," he said, "is also a good example of what can be done in international cooperation when nations are agreed on objectives and willing to work together and make sacrifices to achieve those objectives."

In discussing the present situation in Europe, Secretary Anderson noted that some people who had recently visited in Europe were surprised to see no one who seemed to be starving. "Nutritionists know," he said, "that children can have ruddy cheeks and still be suffering from tuberculosis. I am informed that in

(Continued on Page 107)

PROPOSED DEFINITION OF MARKETING

The following proposed rules governing the marketing of sugar in the United States in the administration of sugar quotas appeared in the *Federal Register* of December 16, 1947, on page 8409. The full text of the official notice is printed here for the record.

Department of Agriculture
Production and Marketing Administration

ADMINISTRATION OF SUGAR QUOTAS

Notice of Rule Making

Notice is hereby given that the Secretary of Agriculture, pursuant to the authority vested in him by the Sugar Act of 1937, as amended, extended, and re-enacted, particularly by the Sugar Act of 1948, is considering the issuance of a regulation, as hereinafter proposed, under which sugar produced from sugar beets and sugarcane grown in the continental United States will be deemed to be marketed under the provisions of the said Act.

All persons who desire to submit written data, views, or arguments for consideration in connection with the proposed regulation shall file the same in quadruplicate with the Director of the Sugar Branch, Production & Marketing Administration, U. S. Department of Agriculture, Washington, D. C., not later than *December* 23, 1947.

The proposed regulation is as follows:

801.50 Definition of marketing. (a) A marketing of sugar shall be deemed to have occurred when delivery of the sugar is made against a bona fide sales contract.

(b) The following shall be deemed to constitute delivery:

(1) Actual delivery of the sugar by the seller, or by the warehouseman, or custodian (1) to the buyer, or (ii) to a common carrier for transportation to the buyer, whether or not such transportation involves subsequent transshipment by means of another such carrier.

(2) Constructive delivery of the sugar by the seller, or by the warehouseman or custodian, by (i) delivery to the buyer of a negotiable or non-negotiable warehouse receipt, or custodian's storage receipt, representing the sugar, or (ii) acknowledgment that the sugar is held for and on behalf of the buyer.

(c) Delivery of sugar shall be evidence as follows:

(1) By the seller. Actual delivery to the buyer shall be evidenced by the buyer's written receipt thereof; actual delivery to a common carrier for transportation to the buyer shall be evidenced by a copy of the bill of lading, or other shipping receipt, issued by a common carrier; delivery to the buyer of a negotiable or non-negotiable warehouse receipt, or a custodian's storage receipt, shall be evidenced by the buyer's written receipt thereof; and an acknowledgment that the sugar is held for and on behalf of the buyer shall be evidenced by the buyer's written receipt of the notice of such acknowledgment; and

(2) By the warehouseman or custodian. Actual delivery to the buyer shall be evidenced by the warehouse or custodian delivery advice accompanied by a copy of the buyer's written receipt to the warehouseman or custodian; actual delivery to a common carrier for transportation to the buyer shall be evidenced by the warehouse or custodian delivery advice accompanied by a copy of the bill of lading, or other shipping receipt, issued by a common carrier; issuance to the buyer of a negotiable or non-negotiable warehouse receipt, or custodian's receipt, representing the sugar shall be evidenced by the warehouse or custodian delivery advice showing the number of such receipt and to whom issued; and any other acknowledgment that the sugar is held for and on behalf of the buyer shall be evidenced by the warehouse or custodian delivery advice accompanied by the original or a copy of the buyer's written receipt of such acknowledgment.

(d) A sales contract shall be deem-

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THE MARKETS

Quotations in the sugar future market have shown a tendency to strengthen during the past few days after dropping down to new lows during the middle of the period under review. May, July, and September were down to 5.05, 5.05, and 5.06 respectively on December 18th with December down to 4.99 and March 1949 down to 4.75, but there has been a gradual upward trend since that date. Just what has brought about this recovery does not seem to be very clear in the minds of the market commentators.

The closing quotations in the Number 5 future contract today (December 26th) show May at 5.15, which is down six points since December 10th. July is 5.16, down five points; September is 5.18, down four points; December is 5.09, down seven points, and March 1949 is 4.85, which is down seven points since our last report. As stated above these quotations indicate a recovery of ten to twelve points from the lows registered during the period.

Practically all of the news that has come out of Washington regarding the hearing held in that City on December 16th, to give the Secretary of Agriculture some assistance in determining the 1948 consumption requirements of the Continental United States, has been on the long side with the Cubans even predicting that the United States will need a million more tons of sugar than was consumed in 1947 in 1948. Suggested consumption figures of 8,000,000 tons and 8,500,000 tons have been made by certain heavy consuming interests. Most of the domestic producing interests filed briefs instead of testifying at the open hearing, however, and it is almost certain that their ideas of consumption requirements were considerably under those of the refiners, soft drink manufacturers, and other large consuming elements.

In this connection it is interesting to note that the New York Coffee and Sugar Exchange ticker report stated, at the close of the market on December 22nd, that the United States Secretary of Agriculture was expected to fix the quotas between 7,300,000 and 7,800,000 tons.

Cuba is having labor trouble again and the National Federation of Sugar Workers has warned the Government that they will not allow a sugar crop to be made in 1948 until terms of crop payments to workers have been settled. We understand that a tentative agreement guarantees that the worker's minimum pay in 1948 will be not less than the highest pay received in 1947.

The Governments of the United States and Cuba have ratified the agreement whereby the duty on Cuban sugar entering the U. S. on and after January 1, 1948 will be reduced to fifty cents a hundred pounds (0.50¢ per pound).

Sales of actual sugars to the American market reported since December 10th have consisted of 23,000 tons of Cubas for January shipment at 5.35 c.i.f. (5.85 duty paid) to National and 4,000 tons of Cubas for March shipment at 5.53 duty paid to Godchaux. The sale to National is said to be at a premium because of its early shipping date.

A report on December 18th stated that Great Britain had purchased 20,000 tons of Cuban raws at 3.80 cents per pound f.o.b. Cuba.

Greece is said to have purchased 25,000 tons of Cuban refined sugar for January, February, and March shipment at 5.20 cents a pound f.o.b. Cuba and the U. S. Army is reported to have purchased 25,000 tons of Mexican refined sugar, at an undisclosed price, for shipment to Korea.

Louisiana Markets

Delivery of Louisiana raw sugar under contract to the refiners has continued as rapidly as the weather would permit, but there still have been no spot transactions reported. This means that twelve weeks of the seventeen week contract period have now been completed without a spot sale of Louisi

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SECRETARY ANDERSON

(Continued from Page 104)

Italy the death rate from tuberculosis has doubled since 1940. UNRRA officials in Greece a year ago stated that 3 per cent of the people had active tuberculosis and that another 7 per cent showed signs of it. Many other diseases have also increased—particularly in areas which were under German occupation.

"I was in Europe briefly this summer but still had time to see evidence of hunger. You can go for a week and not see a grown person laugh. Children are languid and don't play nearly as much as American children do. But the depth of Europe's hunger isn't visible to the eye. It is what doctors call —hidden hunger. It doesn't show on the surface, but if it continues long enough it will lead to collapse.

"The key to understanding the European situation," he said, "is in realizing the cumulative effect of years of food shortage coupled with the unexpected set-back this season. It has been eight years since Hitler invaded Poland and the food shortages of much of Europe began soon after that.

"Since the war ended the people have been working to rehabilitate their economies. The Committee of European Economic Co-operation reports that in 1946 bread grain production in the participating countries was back up to 83 per cent of prewar. In some countries which were never occupied it was above prewar.

"But this year (1947) was another story. The bad weather—especially the drought in France—reduced bread grain production in 1947 to 63 per cent of prewar. That's one-fourth below last year. When you realize that Europe's people had been looking forward to the harvest as a time when their Spartan rations could be raised a little, you realize what this crop failure means.

"In France where the wheat harvest was the lowest on record, bread rations were cut one-fifth while the harvest was going on. That was the second cut this year—the other one having come in May.

"The European grain situation," Secretary Anderson said, "shapes up about like this: On the basis of world conditions just before we started our grain conservation drive it appeared that grain available to Western Europe would fall some 200 million bushels short of the amount necessary to maintain the low rations of the past year. Our conservation drive is aimed at saving 100 million bushels of additional grain—enough to fill half that gap. If we reach that target it will only bring our exports to last year's level. That would still leave Europe with less grain than last year—certainly a grim prospect. It should be noted that in figuring the gap in Western Europe at only 200 million bushels, it is assumed that wheat exporting countries other than the United States will send in 100 million bushels more than they did last year."

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PROPOSED DEFINITION

(Continued from Page 105)

ed to be a bona fide contract if, in accordance with the foregoing:

(1) Actual delivery of the sugar is made under the contract during the quota year in which such contract is made;

(2) Constructive delivery of the sugar is made under the contract which permits actual delivery during the quota year in which such contract is made and actual delivery is made by January 31 of the following year;

(3) Constructive delivery of the sugar is made under the contract which permits actual delivery during the quota year in which such contract is made and the sugar is paid for in cash by January 31 of the following year; or

(4) Constructive delivery of the sugar is made under the contract which permits actual delivery during the quota year in which such contract is made and not less than 25 per cent of the sugar is actually delivered, or not less than 25 per cent of the purchase price of the sugar is paid in cash, by January 31 of the following year: Provided, The entire amount of the sugar is actually de-

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livered to the buyer and paid for in full.

(e) The provisions of this section shall apply to the first marketing of sugar produced from sugar beets and sugarcane grown in the continental United States.

Done at Washington, D. C., this 11th day of December, 1947.

F. R. BURKE,
Acting Administrator

LEAGUE FILES BRIEF

(Continued from Page 102)

the consumer. As the elements of uncertainty regarding the different factors begin to disappear in favor of definiteness as to facts and figures, the Secretary and his advisors retain the freedom of opportunity to apply corrective measures. To the extent that these measures can be applied through increasing quotas and allotments, the program can be administered with the greatest ease and with highly satisfactory results. But when the consumption estimate proves excessive and it becomes necessary to reduce quotas or allotments under the provisions of the Sugar Act, the difficulties begin to multiply. It has been the experience of the industry that the tendency is to postpone or avoid action to reduce quotas already fixed and allotted, because of the involvements and disappointments which may result. A firmer policy of supervision over the quota program flows naturally when the sugar made available is equal to or even somewhat less than the demand may be expected to become eventually. Therefore, we recommend to the Secretary that the initial estimate of consumption and the supplies of sugar made available under the announced quotas should be arrived at conservatively, in keeping with all of the factors specified by Congress in Section 201 of the Sugar Act.

Ability to Market Quota

When announcing this public hearing, the U. S. Department of Agriculture stated that it would receive briefs with regard to the determination and

re-allotment of sugar by which any domestic area may be unable to market its quota in 1947. No determination with respect to the ability of the Mainland Cane Area to market its 500,000-ton quota within the calendar year of 1948 can be accurately judged or estimated at any time prior to July at the earliest. Crop estimates made each July can serve as an indication of the probable maximum production to be expected from the growing crop. Of course, crop estimates made in September are based upon latest observations at stages more advanced in the progress of the crop and, therefore, with a greater degree of accuracy. Present indications are that the 1947 sugarcane crops in Louisiana and Florida will fall short of expectations and there would appear to be no need for marketing allotments to be made in the Mainland Cane Area for 1948. Consequently, the ability to fill the 500,000-ton quota provided in the Sugar Act will depend upon the prospects of deliveries from the 1948 crop in the last quarter of that year. Under the circumstances, we recommend that no determination of probable deficits in the Mainland Cane Area should be officially made for purposes of reallotment until the crop estimates to be made in July and September furnish data which can be said to form a sound and accurate basis for such determination. We recommend caution principally because we hope to avoid any necessity for making marketing allotments to processors of the Mainland Cane Area during the last quarter of 1948.

Respectfully submitted,
C. J. BOURG

IN WASHINGTON

(Continued from Page 99)

producers, but there were basic figures of 7,200,000, 7,400,000 and 7,500,000 suggested in three of the written statements filed by domestic producers. All of us submitted the matter for determination by the Secretary as he *only* one who has available *all* of the data and statistics upon which an official estimate can be justified.

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THE MARKETS

(Continued from Page 106)

ana raws. The quotation on raw sugar delivered New Orleans, has remained at 6.32 cents per pound during the entire season to date.

Spot sales of Louisiana Blackstrap Molasses have also been lacking since December 10th and the quotation on this commodity, in bulk f.o.b. plantation, has remained unchanged at 28 cents a gallon. Some blackstrap has been contracted for at 29 cents a gallon but the shipping dates have removed these transactions from the spot sale category.

Weekly Average Prices

The weekly average prices since the start of the grinding season, issued by the Cane Products Trade Association have been as follows:

For the week ending October 9th Raws 6.32. Blackstrap 23 cents.

For the week ending October 16th Raws 6.32. Blackstrap 23 cents.

For the week ending October 23rd Raws 6.32. Blackstrap 25 cents.

For the week ending October 30th Raws 6.32. Blackstrap 25.90 cents.

For the week ending November 6th Raws 6.32. Blackstrap 26 cents.

For the week ending November 13th Raws 6.32. Blackstrap 26.25.

For the week ending November 20th Raws 6.32. Blackstrap 27.00 cents.

For the week ending November 27th Raws 6.32. Blackstrap 27.00 cents

For the week ending December 4th Raws 6.32. Blackstrap 27.80 cents.

For the week ending December 11th Raws 6.32. Blackstrap 28.00 cents.

For the week ending December 18th Raws 6.32. Blackstrap 28.00 cents.

For the week ending December 25th Raws 6.32. Blackstrap 28.00.

The average price of raw sugar for the first twelve weeks of the cane purchase contract period is 6.32 cents pound.

The average price of Louisiana blackstrap molasses for the twelve weeks ending December 25th is 26.245.

Control Alligator Weeds

with

2-4 Dow Weed Killer

Get rid of that cane thief, alligator weed, this new, easy, effective, inexpensive way—the way cane growers everywhere are talking about. 2-4 Dow Weed Killer has proved itself *in actual use* as the best method of controlling alligator weed. Apply it with ground equipment or by airplane—treat as high as 100 acres an hour. 2-4 Dow Weed Killer applied in April or May will effectively stop alligator weed for 8 to 12 weeks. Generally only one or two treatments are needed in a crop year. 2-4 Dow Weed Killer eliminates costly hand weeding and gives you more effective weed control at lower cost. Write today for complete information on the use of 2-4 Dow Weed Killer in cane fields—or see your local experiment station.

Esteron 44, as well as 2-4 Dow Weed Killer, is ideal for clearing canals of aquatic plants such as water hyacinth.

USE THE RIGHT DOW WEED KILLER

2-4 DOW WEED KILLER for weeds in rice, sugar cane, pastures, fence rows, ditch banks.

ESTERON 44 for many woody plants. Controls wild rose, poison ivy, sumac and others.

DOW CONTACT WEED KILLER for destroying weeds and grass above ground, and leaving roots to prevent erosion.

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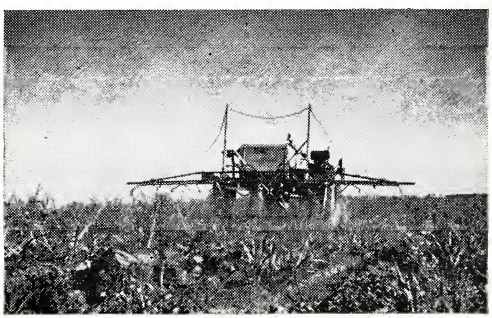
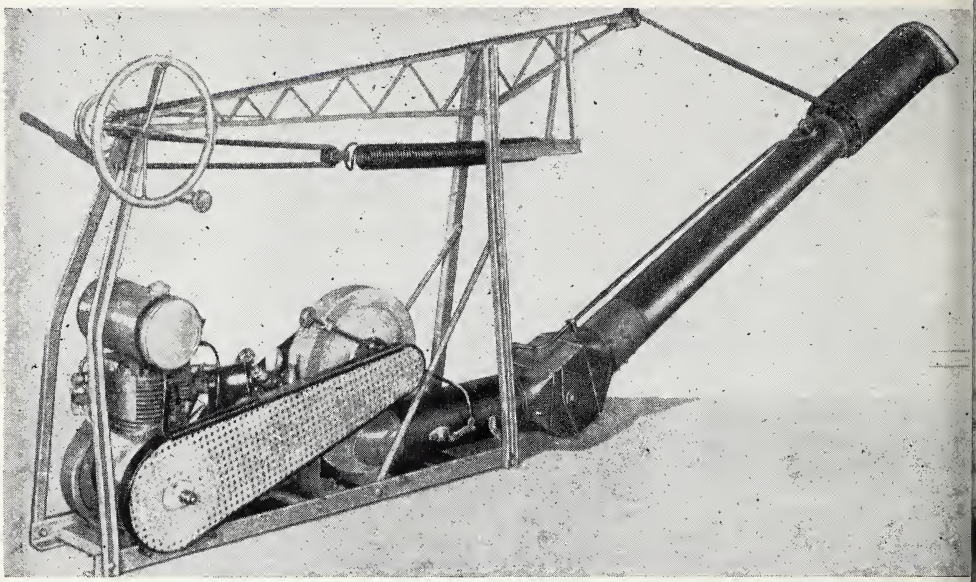


DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE

WOOLERY JUNIOR WEED BURNERS

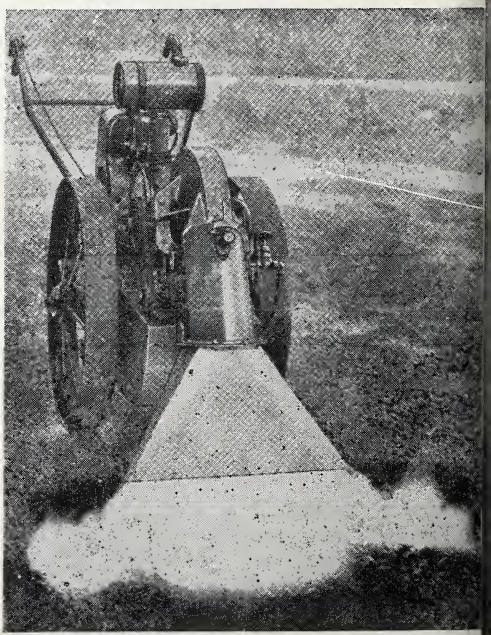


Model "A" Woolery Junior Weed Burner Unit

The Model "A" shown above burns a swath 5 feet wide and has a wide range of adaptability. It may be mounted on a Railroad push car to be towed by a motor car or can be mounted on a truck, tractor or trailer car and used for burning along highways, fences, canal banks, irrigation, ditches, etc.

The Model "D" is a self-propelled unit built on an angle steel frame and mounted on a two-wheel chassis with either steel or rubber tires. It is especially adapted for flame cultivation between crop rows on sugarcane and pineapple plantations. Shields are provided on each side of burner hood and are adjustable. They can be swung in and out, raised and lowered, so as to give positive control of flame to prevent injury to crop plant. The entire space up to six feet between crop rows can be flamed by making one trip.

Its use is not restricted to weed burning alone, as it provides an efficient means for dusting cotton crops, spraying fruit orchards, potatoes or any other crops that come within this category.



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WOODWARD, WIGHT & CO., LTD.
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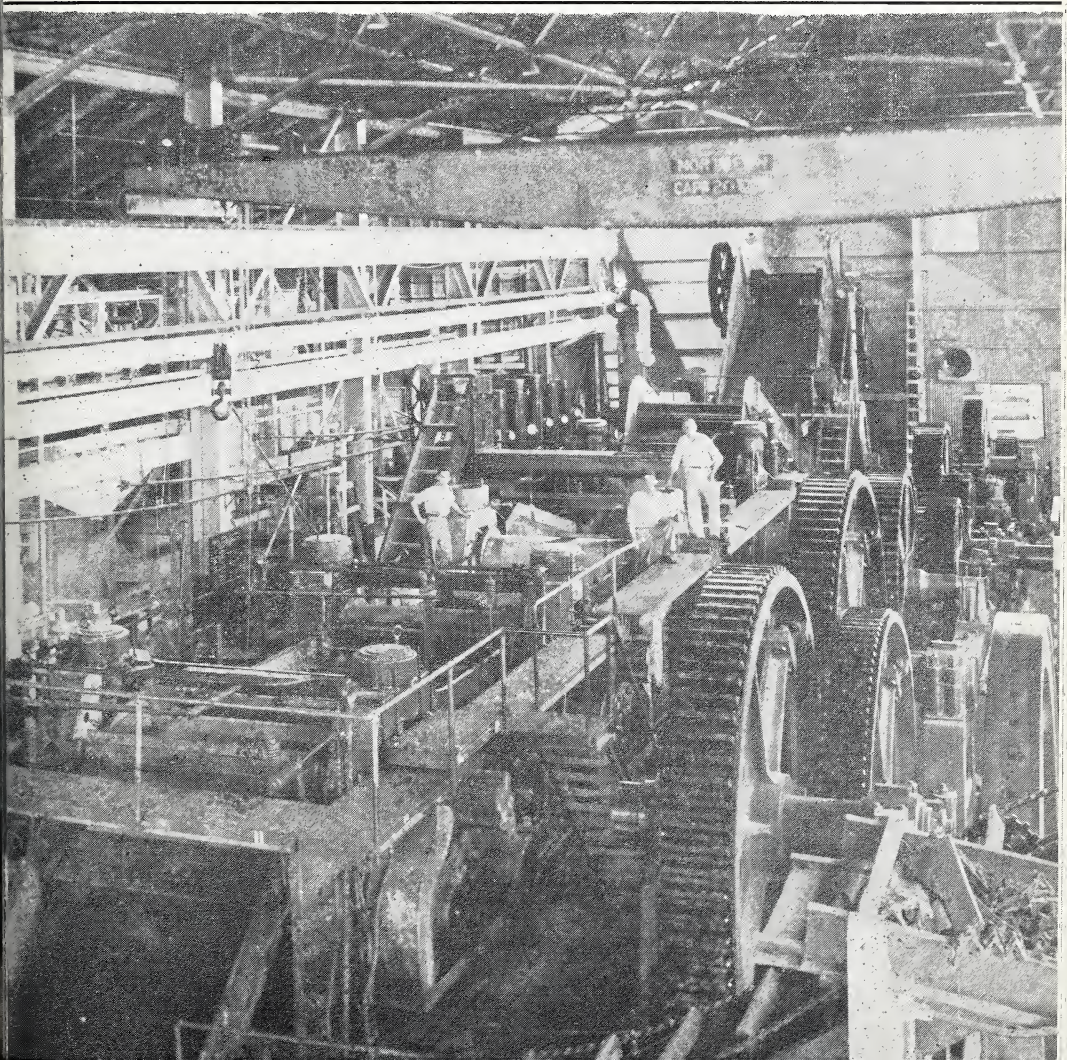
THE SUGAR BULLETIN

d as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., JANUARY 15, 1948 No. 8



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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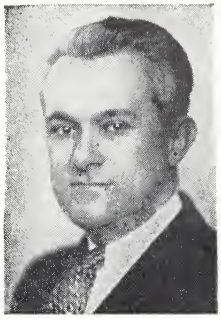
IN WASHINGTON WITH C. J. BOURG



Pursuant to the provisions of the Sugar Act, the Secretary has estimated that the consumption requirements for 1948 in the U. S. will be 7,800,000 tons. According to the immediate market reaction, this estimate appears to be larger than necessary at this period. We sincerely regret that the Secretary did not choose to follow the recommendation of the domestic producers who had uniformly advised that the initial quotas should be conservatively determined as there would be ample opportunity later for correction upward, with no probable harm to any area or individual. Domestic producers had pointed that adjustments upward would be well received, as any actual necessity might develop, in contrast to the difficulties and possible harm which could result from a reduction in quotas after considerable sugar had been marketed. The effect on price for the first several days has been bearish, as reflected by Exchange transactions, but we have not abandoned hope that the market will finally maintain a price which fairly reflects the 1947 relationship between the price of sugar and the cost of living index, otherwise the domestic industry must look for further action from the Secretary in accordance with the provision made by Congress in Section 201 of the Sugar Act.

Molasses Price

A deal of considerable significance to the Louisiana sugar industry has been announced whereby the British Government has purchased 90,000,000 gallons of blackstrap molasses from Cuba at an approximate price of 18½c per gallon, f.o.b. tanker. Growers and processors alike will be interested in this development as the price paid would be comparable to the delivered price of 28c being paid for Louisiana molasses. 90,000,000 gallons amount to roughly one-third of the estimated 1948 Cuban production. With such a large proportion of the 1948 Cuban crop being sent overseas, the effect of this sale will be far-reaching in the U. S. market throughout the year and not without some influence upon the price of molasses when the Louisiana 1948 crop is harvested. It is recognized that the price of molasses now being paid for the Louisiana production will provide a very welcome bonus to growers and processors alike in the face of the disappointing results of the 1947 crop. It practically amounts to a silvery lining for the otherwise very short crop.

Another Tariff Reduction

The President signed a proclamation making effective on January 1st a reduction in the tariff on Cuban sugar from 75c to 50c per lb. of raw sugar. Ordinarily this would have been an item of major interest in sugar circles, but it has caused scarcely a ripple. The market has taken this tariff reduction in stride and with practically no reaction. As we have often stated, the quota program is a much more definite and reliable means of controlling imports. The tariff provides a competitive barrier, but as experience has shown, the effectiveness of a tariff rate depends entirely upon whether the importer is willing to absorb or take

(Continued on Page 126)

DISPOSAL OF SUGARCANE BORERS OVERWINTERING IN SHOOTS OF SUMMER-PLANTED CAN

By E. K. Bynum, W. E. Haley, and L. J. Charpentier, U.S.D.A., Agr. Res. Adm., Bureau of Entomology and Plant Quarantine

There are two rather definite periods for planting sugarcane in Louisiana, summer and fall. Summer planting usually starts about August 1 and extends for about 15 days. Fall planting is done during the latter part of September and the first part of October. The starting and closing times for summer planting depend upon the weather, the labor supply, and the availability of seed cane mature enough to be used for planting. There has been a great increase in the acreage of summer-planted cane during recent years, and it is highly probable that this trend may continue for some time. By planting some of the cane in late summer instead of leaving it all until fall, growers can use the short labor supply to better advantage. The much more abundant sprouting of seed cane when summer-planted than when fall-planted should permit planting of less seed cane per acre, and thus compensate largely for any loss due to the shorter length of the cane available for summer planting.

It has been found that a good stand of cane can be obtained by summer planting in areas where wireworm damage is severe. Several experiments, with both large and small plots, have shown that wireworm damage can be greatly reduced by planting about August 1.

Shoots from summer-planted cane offer a good overwintering medium for the sugarcane borer, *Diatraea saccharalis* (F.). Summer-planted cane sprouts quickly, and the young shoots make considerable growth before they are killed by frost, but become heavily infested by the borer. The older shoots may develop a few joints, and many of them are not killed to the ground. Many borers mature during the fall in jointed shoots and survive the winter in them. Under normal conditions more overwintering borers are present i shoots from summer-planted cane tha in any other material found on suga cane plantations, except unburned car trash.

Abundance of borers overwi tering in various materials.—Th numbers of overwintering borers foun in various materials in the sugar are of Louisiana are given in table 1. Fo 1935-46 the estimated maximum nun ber of overwintering borers per ac in shoots from summer-planted can was 1,053 and the average was 46 In the winter of 1946-47 the maximu was found to be 3,775 and the averag 1,482. This average probably is hig however, because of the limited numb of plantations on which examinatio were made. The large number borers found overwintering in rice stu ble indicates that rice fields are a important source of spring borer in festation where such fields are locate near sugarcane fields.

Methods of destroying borers.— The destruction of a large percenta of the borers surviving the winter i summer-planted cane, at a reasonab cost without reducing the stand cane, has been a difficult problem. Se eral methods of handling the shoo to destroy these borers have been trie It was found too expensive to cut an remove the shoots from the field i such a way that the moths would n be able to emerge and fly back into th

TABLE 1.—Estimated numbers of sugarcane bore per acre surviving the winter in various host materials in Louisiana, 1935-46

Material	Maximum	Avera
Sugarcane:		
Stubble	89	
Fall-planted seed cane	126	
Summer-planted seed cane	33	
Young shoots from fall planting	0	
Young shoots from summer planting	1,053	4
Burned cane trash	930	1
Covered nonburned cane trash	3,744	8
Rice Stubble	84,942	42,4

(Continued on Page 123)

YOUR COUNTY AGENT REPORTS

SUGARCANE PRODUCTION IN IBERVILLE PARISH

by

R. J. Badeaux, Jr., County Agent

The term "Sweet Iberville" is not merely a figurative saying but in reality can be called the land of sugar. It is in this river parish that nearly 19,000 acres of sugarcane is planted and cultivated in the latest and most modern mechanized fashion. Large plantations, six sugar mills, namely, Cora Texas, Cedar Grove, Catherine, St. Louis, Myrtle Grove, and Slack's all spell efficient assembly line technique in sugarcane production, harvest and milling. The two hundred and sixty-four producers of sugarcane have maintained an average above that for the state in recent years despite unfavorable weather conditions and a seriously needed parish-wide drainage program.

328,000 tons of cane were milled locally this year which represents a 19% drop compared to last year. A crop that promised to be the best in the parish history suffered a severe summer drought and an early fall storm that cut heavily into yields and increased the cost of harvest by nearly 25 percent. Weather conditions during the milling season were favorable generally except for short spells of rain during late November and early December. Good harvest weather allowed farmers to deliver cane relatively clean of trash for most of the season. This accounts for the relative low trash deduction of between 2 and 3 percent of the total cane milled. Only periodic trash deductions were necessitated because of the exceptionally clean cane delivered. An active campaign by millers and growers to have only clean cane delivered showed up in sucrose tests as well and farmers were generally well pleased with tests this fall. Premium cane was delivered by many growers even from the beginning of the season which began in mid-October.

Average yields of about 17 tons per acre this year is considerably better than expected and favorable compared to adjoining parishes. The 1948 crop will be about the same in acreage as 1947. Plant cane stands are exceptionally good with plant cane in over 1600 acres of summer fallow plowed lands. Johnson Grass infestation in these fallow lands made only a meek appearance before frost. Although this practice has been used only on a limited basis before this year it promises to be practical and economical in grass control. Yields have been known to double on lands so treated in limited acreages on previous test plots.

With the use of mechanical harvesters, three row cultivators, ditch bank burners, fallow plowing, improved fertilization, new and improved varieties as recommended, airplane dusting for borer control, and improved milling facilities, sugarcane production in Iberville seems to be in a position to compete with other producing areas even at lower sugar prices.

MR. GODCHAUX DISCUSSES THE PURCHASE CONTRACT

We print below a letter discussing the Louisiana Cane Purchase Contract which was written on December 30, 1947 by Mr. Walter Godchaux, Vice-President of Godchaux Sugars, Inc.

The Editor is glad to be able to comply with Mr. Godchaux's request that his letter be printed in THE SUGAR BULLETIN and will always welcome letters from our readers on any subjects that are of interest to the Louisiana Sugar Industry.

Mr. Marcel J. Voorhies, General Manager,
American Sugar Cane League,
414 Whitney Building,
New Orleans 12, Louisiana.

Dear Mr. Voorhies:

Now that we have come almost to the end of the sugar cane grinding campaign for the crop of 1947, all processors, as well as all sugar cane farmers sending their cane to the various factories, must realize forcibly that we have come to an impasse as regards the all important matter of the quality of cane delivered to the various processing factories.

Due to the tremendous amount of extraneous matter, such as leaves, tops, soil, weeds, etc., brought to the factories mixed with the sugar cane, caused undoubtedly by the use, forcibly, of mechanical harvesters, and the hand cutting of cane, cutting only top and bottom without removal of the green and dry leaves at times due to wet weather.

The result of such a procedure as mentioned above is—

1. That the milling rate at all factories has been greatly diminished; to such an extent that were it not for the short crop and the lateness in arrival of the killing freeze to date, a great deal of sugar cane tonnage would have been endangered through freeze losses and other causes.

2. The wear and tear on the milling equipment due to excessive trash causing mill roller slippage, and making it at times utterly impossible to clarify the cane juice even at a low rate of milling.

3. The very appreciable loss of "red enment" of pounds of sugar per to due to the inability of getting norma juice and sucrose extraction, and poo clarification.

4. The higher cost of plant oper ations due to low tonnage handle per day, and the higher freight cost suffered by the processors due to th excessive amount of offal and als the high cost of harvesting whic falls heavily on the hands of th farmers, making it necessary to hau from the fields to the loading sta tions and factories foreign materia on which deductions must be mad by the processors to avoid positiv loss in operation.

The price of cane for countless years before the advent of the cane harveste and the acceptance of cane cut onl top and bottom, was based upon QUALITY OF CANE that was cut i the LAST MATURE JOINT ANI REASONABLY CLEAN OF TRASH This standard of quality has been aban doned in recent years.

The sugar industry of Louisiana i under the control of the United State Government, acting through its Depart ment of Agriculture. This Departmer is authorized by law to impose cor tracts for the purchase of sugar cane b processors from the growers on term that are fair and equitable. Such a cor tract has not been in vogue in recer years. It is not fair and equitable be cause the yield on which the old cor tract was based, was possible to be ob tained, due to the proper harvesting c

(Continued on Page 125)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The Louisiana grinding campaign is almost over but there still are some mills working as we go to press. We believe, however, that practically all of these plants will have finished by the time this issue is mailed.

Our friends, the county agents, have been kind enough to supply us with the following reports and we pass them on to our readers.

St. James Parish. Joseph Lamendola, reporting on January 8th advised that the grinding season in St. James Parish was 98 per cent completed on that date. About 245,000 tons of cane had been milled up to January 8th with the sugar production averaging about 148 pounds to a ton of cane. Cane production per acre has averaged about 18 tons. Mr. Lamendola states that the number of acres in cane in his district for the 1948 crop will total about 20,000 as compared with a 1947 acreage of 19,205.

Terrebonne Parish. Reporting from Terrebonne Parish on January 10th Richard Sonnier stated that grinding operations in his district were about 95 per cent completed on that date. The cane production per acre has averaged about 16 tons and the sugar production per ton of cane about 15½ pounds. About 290,000 tons of cane had been ground by the mills in Terrebonne Parish to January 10th, with three mills in the parish still operating. The acreage planted to cane in Terrebonne Parish this year is about 22,500 as compared with 21,900 acres in cane in 1947.

St. Landry Parish. A. K. Smith, Jr., advised us in the January 1st issue of THE SUGAR BULLETIN that the harvesting operations in his parish had been completed before the first of the year. His report dated January 7th states that the cane production per acre was about 14 tons, and that the acreage in cane for 1948 is about the same as that used in 1947 which was 1,800 acres.

Lafourche Parish. A. C. Moreau estimated on January 7th that the grinding campaign in Lafourche Parish was about 95 per cent completed with the Greenwood and Leighton mills through grinding. Four other mills were still operating. The estimated grinding to January 7th amounted to 616,000 tons of cane with the sugar production running about 145 pounds to the ton and the cane production about 17 tons to the acre. Thirty-nine thousand acres will be used for the 1948 cane crop in Lafourche Parish as compared with 36,800 acres in 1947.

Iberia Parish. The grinding campaign in Iberia Parish was 99 per cent completed on January 8th, according to a report from W. E. Williams, with only the Right Way factory still in operation on that date. Mr. Williams advises us that Duhe & Bourgeois finished their grinding operations on December 27th, The Vida Sugar Company on December 29th, the Orange Grove Sugar Company on January 6th, and the Iberia Sugar Cooperative and the M. A. Patout & Sons mills on January 7th. The estimated grinding to January 8th announced to 352,000 tons of cane and the sugar production per ton of cane averaged from 148 to 150 pounds. The cane production per acre has averaged between 13½ to 14 tons.

St. John Parish. On January 8th Otis J. Broussard, county agent of St. John Parish, advised us that the grinding campaign in his district was about 90 per cent completed with 148,500 tons of cane ground. The production

of cane per acre in his district has averaged about 17½ tons and the sugar production about 156 pounds to the ton of cane. Mr. Broussard estimates that about 10,300 acres will be used for the 1948 cane crop as compared with 10,000 acres in 1947. The San Francisco mill was the only plant that had completed its grinding campaign on January 8th, but Caire & Graugnard was scheduled to finish on January 9th and the Godchaux (Reserve) mill on January 15th.

Assumption Parish. The amount of cane ground in Assumption Parish to January 7th came to 505,000 tons according to a report received from Moore Valois on that date. Cane production has averaged about 16 tons to the acre and the production of sugar per ton of cane about 145 pounds. The Lula, Cedar Grove (Robichaux) and Glenwood Cooperative mills had completed grinding by January 7th leaving three mills still grinding in the parish. Mr. Valois estimates that about 35,600 acres are in cane for the 1948 crop in his district compared with 35,437 acres used for cane in 1947.

St. Mary Parish. On January 8th P. J. deGravelles advised us from St. Mary Parish that the grinding campaign there was 90 per cent completed, with five mills still in operation on that date. The cane ground to January 8th amounted to 495,000 tons with the production per acre averaging about 16 tons. The cane acreage for the 1948 crop in St. Mary Parish will be about 39,500 acres compared with 39,458 acres last year.

Iberville Parish. The Iberville Parish grinding campaign was completed before January 12th and M. J. Badeaux, Jr., reported on that date that 252,000 tons of cane had been milled in his district. Sugar production has run about 140 pounds to the ton of cane and the production of cane per acre has averaged between 12 to 13 tons. Mr. Badeaux estimates that about 19,200 acres will be used for the 1948 cane crop which is unchanged from that of last year.

Sugar Production Through January 10th

We have been advised by Dr. W. M Grayson, Chief of the Louisiana Suga Division of the Production & Marketin Administration, that through the week ending January 10th the Louisiana su gar mills ground 3,958,632 tons of can and that the sugar production throug January 10th amounted to approxi mately 290,000 tons, raw value. As w have reported in previous issues thes production figures cover sugar actuall in the bag, or ready for shipment, an do not include sugar in process at th mills.

THE MARKETS

The Secretary of Agriculture an nounced the estimated sugar consump tion requirements for the United State over the week-end immediately follow ing New Year's Day. He placed th needs for sugar here at 7,800,000 ton (200,000 tons less than the highest con sumption in history) and the futur market immediately dropped 17 point in the May position, 14 points in July and 16 points in the September, Decem ber and March and May 1949 position which would seem to indicate that th trade considered the estimate too hig to maintain the market. Writing in th January 9th, *Times-Picayune* on thi subject, Paul Wooton, the *Times-Pica yune* Washington Staff Correspondent stated that "Domestic sugar producer think this estimate is too high. The point out that this is within 200,00 tons of the highest annual consumptio of sugar in history. In 1941, 8,000,00 tons of sugar were absorbed by th American market. This was the yea however, when sugar rationing wa threatened. Practically every consume bought additional sugar as a safeguar against possible inability to secure ade quate supplies later." . . . "Domesti producers are convinced that consump tion in 1948 will not exceed 7,500,00 tons. Average annual consumption pr

Honorable Harry D. Wilson

Harry D. Wilson, who was Commissioner of Agriculture of the State of Louisiana for 32 years, died at Baton Rouge on January 7th, 1948. He was 78 years old.

No Louisiana State official ever held office continuously for so long a time as "Uncle Harry" as he was known affectionately to thousands both here and elsewhere and throughout his career his friendliness and sincerity, his sparkling sense of humor and his outstanding competence attracted to him all with whom he came in contact, officially or otherwise.

Honors came abundantly because of his industry and his conscientiousness and his obvious love for the State that was his home, to the advancement of which agriculturally he gave all he had.

For the last 22 years of his life he was Chairman of the Southern Commissioners of Agriculture. Among his prized possessions was a booklet containing congratulatory letters from the Commissioners of Agriculture of every State in the Union and from the U. S. Secretary of Agriculture, Honorable Clinton P. Anderson, inscribed "To Our Uncle Harry".

In these days of political stratagems, ambuscades and spoils Harry D. Wilson was a brilliant exponent of the power of industry, honesty, sincerity and unselfishness in public life.

war was 6,800,000 tons. The domestic industry sees nothing in the outlook that would justify an addition of more than 700,000 tons to that figure."

Quotations in the future market have recovered some from the lows of January 2nd and the closing quotations today (January 9th) place May at 5.15, which is unchanged since our last report. July is 5.15, which is down 1 point; September is 5.15, down 3 points; December is 5.06, down 3 points; and March 1949 is 4.82, which is down 3 points since the close on December 26th.

Only one sale of actual sugars from off-shore areas was reported during the period under review (December 26th through January 9th). This consisted of 15,000 bags of Puerto Rican raws for January shipment at 5.67 cents per pound delivered to a U. S. refiner. This sale was reported on January 6th and it is interesting to note that the New York spot raw price on the Ticker declined from 6.32 to 5.65 on January 7th which was the day immediately following the reported Puerto Rican transaction. Today January 9th the spot raw sugar price in New York is reported by the Ticker as 5.70.

LOUISIANA MARKETS

The first spot sale of Louisiana raws since the start of the 1947 grinding campaign was recorded in New Orleans on January 7th. The sale consisted of 3,500 bags of raws from the Waterford Sugar Cooperative, Inc. to Godchaux Sugars, Inc., and reduced the spot price of Louisiana raws from 6.32 to 5.67, delivered New Orleans.

It is, of course, needless to report that this transaction has caused considerable comment as it has reduced the spot quotation on raw sugar and will be reflected in the final settlements, not only for sugar that has been sold on average prices but also in the season's average price of cane. It is unfortunate, from the standpoint of the Louisiana industry, that this sale was made but we believe that it is fair to state that the price paid for the sugar was very definitely not out of line with the

value of raw sugar as reflected by the future market quotations and by actual sales made in New York for January, February and March shipments.

No spot sales of Louisiana blackstrap molasses have been recorded since our last report and the quotation on this commodity remains unchanged at 28 cents a gallon in bulk f.o.b. plantation.

Weekly Average Prices

The weekly average prices since the start of the grinding season, issued by the Cane Products Trade Association, have been as follows:

For the week ending October 9th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 16th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 23rd. Raws 6.32. Blackstrap 25 cents.

For the week ending October 30th. Raws 6.32. Blackstrap 25.90 cents.

For the week ending November 6th. Raws 6.32. Blackstrap 26 cents.

For the week ending November 13th. Raws 6.32. Blackstrap 26.25.

For the week ending November 20th. Raws 6.32. Blackstrap 27.00 cents.

For the week ending November 27th. Raws 6.32. Blackstrap 27.00 cents

For the week ending December 4th. Raws 6.32. Blackstrap 27.80 cents.

For the week ending December 11th. Raws 6.32. Blackstrap 28.00 cents.

For the week ending December 18th. Raws 6.32. Blackstrap 28.00 cents.

For the week ending December 25th. Raws 6.32. Blackstrap 28.00.

For the week ending January 1st. Raws 6.32. Blackstrap 28.00.

For the week ending January 8th. Raws 6.06. Blackstrap 28.00.

The average price of raw sugar for the first fourteen weeks of the cane purchase contract period is 6.30 cents a pound.

The average price of Louisiana blackstrap molasses for the fourteen weeks ending January 8th, 1948 is 26.496.

FLASH!

As we go to press we are advised by the Baton Rouge office of the Production and Marketing Administration that they have been instructed by Washington to fix the average price of Louisiana raw sugar for the week ending January 8th, 1948 at 6.32 cents per pound.

Apparently the Sugar Division has elected to disregard the spot sale of Louisiana raws to Godchaux on January 7th and the weekly average price of 6.06 issued by the Louisiana Sugar & Rice Exchange and the Cane Products Trade Association, Inc., for the week ending January 8th, 1948.

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DISPOSAL OF BORERS

(Continued from Page 116)

same or other fields. It was also found too expensive to pile the shoots in the field and burn them completely enough to kill a high percentage of the borers, even when oil was applied to the piles to make a hotter fire. An attempt was made to burn the standing shoots by means of a flame cultivator with a burner operating at near maximum capacity on each side of the row. The dead trash burned rapidly, but the heat was not sufficient to kill the borers in the live jointed shoots.

During the past few years the most practical method of handling the shoots from summer-planted cane has been to shave them off close to the ground during the last half of February or early in March, and to cover them thoroughly with soil in the "middles" (spaces between the rows). The shoots should be left covered as long as cultivation of the new growth can be delayed. Examinations have shown that a large percentage of the borers remain alive in the buried material, and that the only way to reduce the spring emergence greatly is to keep the infested material covered with soil.

Although the control measure just described is practiced in many fields, examinations for eggs and first-generation borers have shown the population to be usually higher in fields of summer-planted cane than in adjacent stubble cane, or in fall-planted cane. Investigations were therefore conducted in cooperation with the Bureau of Plant Industry, Soils, and Agricultural Engineering in an effort to develop a more effective method of destroying overwintering borers in the shoots. The first machine developed for this purpose was of a roller-crusher type. It did not prove satisfactory, because it failed to catch and pull the shoots between the rollers. The second machine was of a hammermill shredder type, and the results obtained were very promising. This machine was first tried out during the winter of 1946-47 on a few rows of summer-planted cane of about normal height. The results were so satisfactory that it was used later in two small experiments with replicated rows, which were compared with similar rows from which the shoots were shaved and destroyed. The shoots were so thoroughly shredded that it was difficult to find any that had not been damaged sufficiently to kill the borers overwintering in them. This machine severed the shredded material from the stubs and left it on top of the rows. An attachment to deflect the material into the middles probably could be devised.

In an experiment on C. P. 34/120 cane in which the untreated shoots contained an average of 1,888 borers per acre, the shaved shoots contained 702 borers per acre, and the shredded shoots none. The stubs left by the shredder contained only 24 borers per acre. In another experiment on variety C. P. 29/320, which averaged 1,525 borers per acre in the shoots prior to treatment, the shredded shoots contained 36 borers per acre, and the stubs 73. In these experiments the stubs were shaved from the shredded rows and thrown

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into the middles by the shaving machine.

It is of course important to know what effect the shaving off or shredding of the fall shoots of summer-planted cane to eliminate the borers may have on the productive stand of cane in these fields. Several experiments were therefore conducted to determine this effect. The stand counts were made in 1942 and 1946 from April 17 to May 6, and are given in table 2. These counts showed that shaving the shoots off in December probably decreased the stand, but that plots shaved after early January had a larger number of plants per acre than plots not shaved, and that plots shaved after February 15 had the largest number of plants per acre.

Summary.—The heavy infestation of the sugarcane borer, *Diatraea saccharalis* (F.), that develops in the fall growth of summer-planted cane is one of the most important sources of moths that emerge and lay eggs on the young cane the following spring. The increased acreage of summer-planted can makes the disposal of the overwinter ing shoots an important problem. A number of methods have been tried, bu in most cases the borer mortality wa so low or the cost of disposal was s high that the method was not practica

TABLE 2.—Effect on stand of shaving off shoots summer-planted cane at different dates.

Date shaved	Date stand counts made	Variety	Number of samples	Estimat numbe of shoot per acr
		10-foot samples		
12/11/41	4/17/42	C.P. 28/19	20	6,1
		C.P. 29/116	20	28,9
	4/20/42	C.P. 29/320	20	11,3
		C.P. 28/11	15	39,0
Average				21,3
1/14/42	4/17/42	C.P. 28/19	20	32,2
		C.P. 29/116	20	71,8
	4/20/42	C.P. 29/320	20	41,6
		C.P. 28/11	10	80,6
Average				56,5
3/10/42	4/17/42	C.P. 28/19	20	45,2
		C.P. 29/116	20	99,6
	4/20/42	C.P. 29/320	20	62,3
		C.P. 28/11	10	104,2
Average				77,8
Not shaved	4/17/42	C.P. 28/19	5	23,4
		C.P. 29/116	5	36,3
	4/20/42	C.P. 29/320	5	20,0
		C.P. 28/11	5	67,1
Average				36,7
		25-foot samples		
4/13/46	4/18/46	C.P. 34/120	60	34,0
2/11/46	5/ 6/46	C.P. 29/120	50	38,4
2/ 4/46	5/ 6/46	Co. 290	30	35,6
Average				36,0
2/27/46	3/18/46	C.P. 34/120	60	30,9
2/26/46	5/ 6/46	C.P. 29/120	50	38,0
2/25/46	5/ 6/46	Co. 290	30	26,8
Average				31,9
Not shaved	4/18/46	C.P. 34/120	30	16,8
	5/ 6/46	C.P. 29/120	25	26,8
Average				21.8

Shaving off the shoots after Februar 15 and immediately plowing them u der in the middles has given good bor control when the middles were n plowed out for several weeks, and h

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ncreased the stand of productive cane. Shredding the shoots by machinery killed most of the borers overwintering in them.

MR. GODCHAUX

(Continued from Page 118)

he cane, now these yields are impossible to obtain due to the manner of harvesting.

In the present contract all the economies of the mechanical harvesting go to the farmers, all the difficulties and deterence of such harvesting must be met by the processors. This is eminently inequitable. I, for one, as an individual, do not believe in penalties or deductions. These leave a bad taste, and offer causes for disagreement between processors and cane farmers.

Due to the inability to obtain the necessary labor, the present method of harvesting has not only come to stay, but will be greatly extended and will become probably universal within the next year or so. Therefore, it is my studied opinion that the Federal Government authorities, through the Department of Agriculture, must formulate cane contract based upon the condition in which the cane is delivered to the factories. In other words, a contract to be fair and equitable must be based on dirty cane, which basis shall be the normal value of cane as presently harvested, and not based as it presently on cane that is cut in the LAST MATURE JOINT AND REASONABLY CLEAN OF TRASH. The Government must evaluate such a delivery and base its price accordingly. Then it will be up to the processors to devise ways and means to clean the cane at the various factories, hoping that they can come out whole under such a new contract.

If we will study the experiences of other sugar cane countries producing sugar from sugarcane, we will learn that they have all gone through the same experiences as we are going through at present. They have and are solving their difficulties in the way I have suggested. They are receiving trashy cane and cleaning same at the factory.

It would be extremely dangerous to contemplate harvesting of the next crop without effecting at least the partial solution to all of these problems, and if the sugar industry of Louisiana is to endure on a safe and profitable basis, all concerned should get busy at once in this solution for the harvesting so as to be prepared safely for the harvesting of the 1948 sugar cane crop

The above is the situation as I see it. The cleaning of the cane in the fields by mechanical devices is practically an impossible task in wet weather, as the cleaning machines would not operate in such weather, and their cost would be so high that small farmers could not take advantage of them even if they would work, which is highly improbable.

Yours very truly,

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IN WASHINGTON

(Continued from Page 115)

losses. The Philippine sugar had prac tically nullified the tariff in 1932 whe sugar reached the level of a quoted pric of 2.58c per lb. No area could produc and market sugar at such a low cos without loss; yet as long as surplu sugars were available, everybody els had to meet the price. Under the quo ta system Louisiana has the benefit o an assured market for the 500,000-to quota which it shares with Florida plus safeguards as to cost-and-price re lationship. Let us not forget that thes two States, comprising the Mainlan Cane Area, could not justify on cor temporary production records a greate quota under the 1934 Act than 260,00 tons. The quota was later increase under the 1937 Act to 420,000 tons, o the record of actual performance in th intervening years. Reflecting their wa production, Louisiana and Florida ar now guaranteed a market of a minimu of 500,000 tons annually over a perio of five years. In supporting the Sug Act of 1948, the League can be assure that it has helped to provide the mo effective *protection* for Louisiana pr ducers, which protection is certain become more evident as the world su pluses of sugar again are restored.

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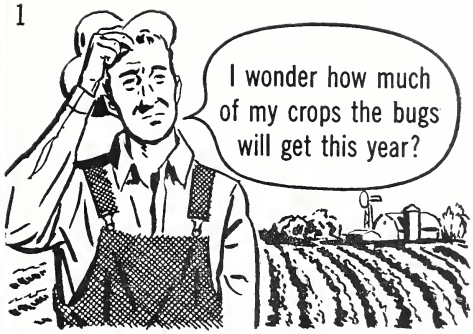

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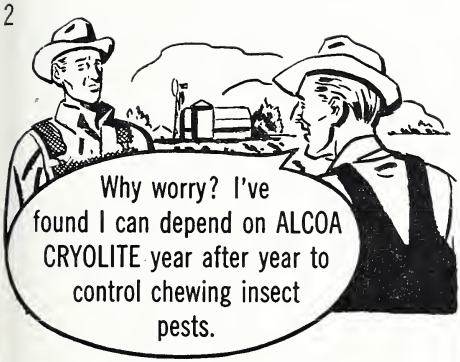

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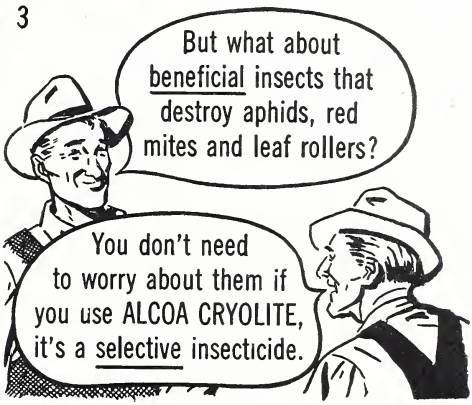
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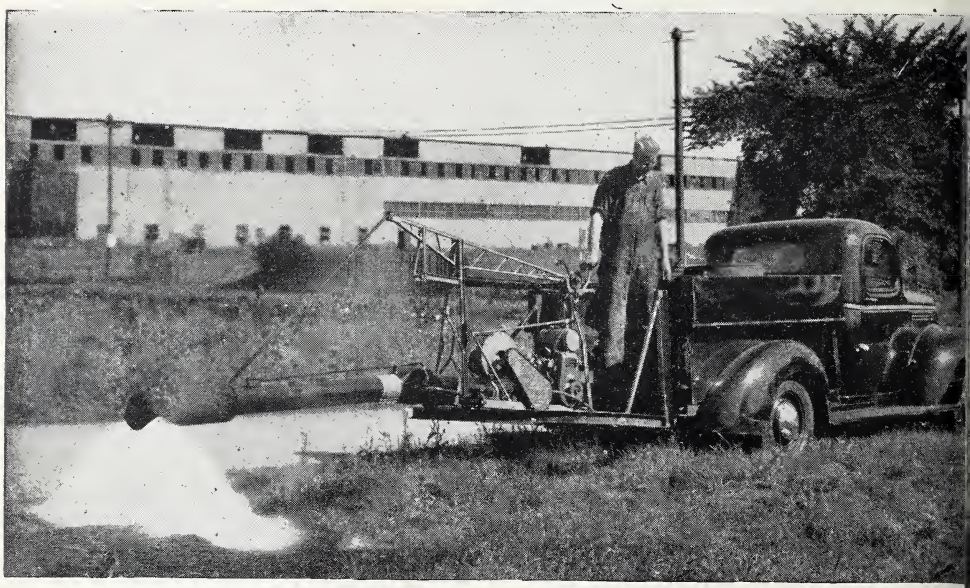

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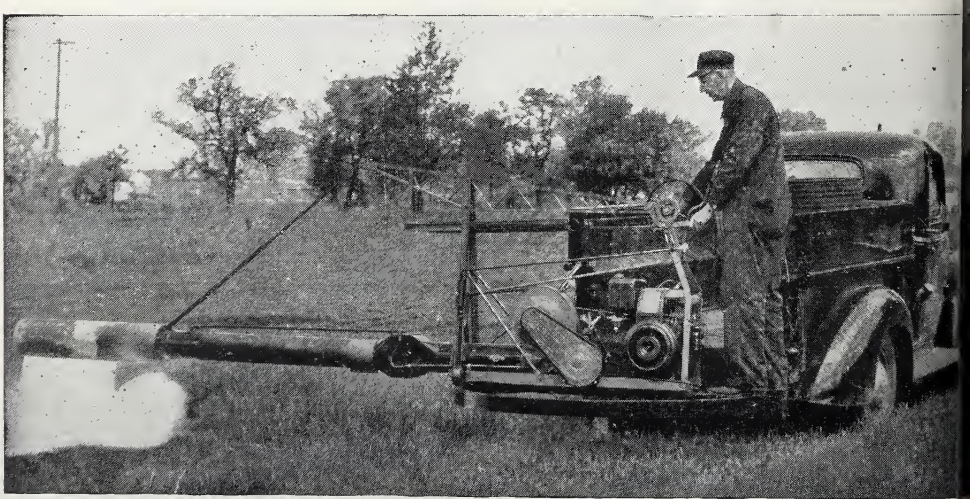

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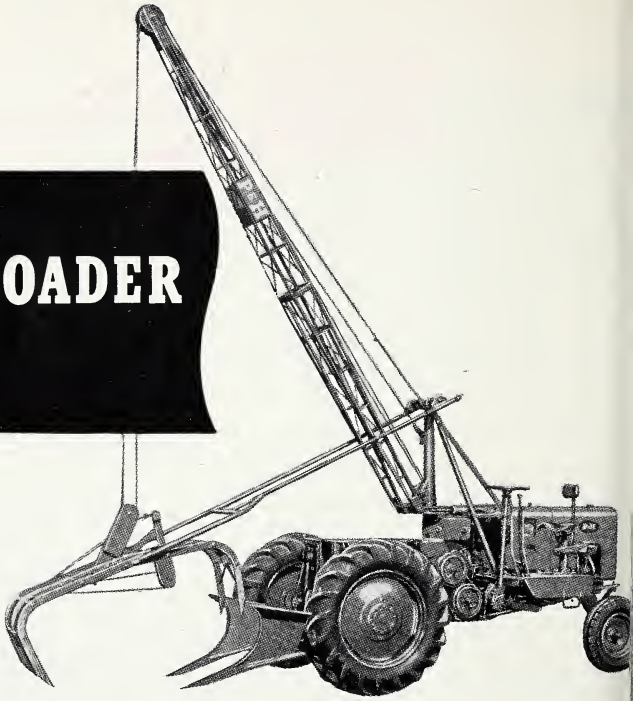

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The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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IN WASHINGTON WITH C. J. BOURG

FROM the standpoint of maintaining a reasonable price for sugar and from the standpoint of maintaining a reasonable ration for each consumer, the domestic sugar industry made a contribution during the war to the national security and the national defense which has deserved the gratitude of the American nation. There is no question that the Congress which passed the Sugar Act of 1948 had that definitely in mind when it agreed to provide stabilization for the industry, in this period of more or less uncertainty.

All agencies of Government who have been reporting on the economic conditions and prospects within the United States point to the probability of an eventual depression. In the daily papers, one reads of the caution which governs all businessmen in their plans for the immediate future. Food prices are expected to drop and there is no question about consumer resistance to the high prices which they are being made to pay. It seems that the great value of having a sugar program—with a guaranteed market and the assurance of fair prices—constitutes an advantage for the sugarcane and sugar beet grower which the growers of other crops do not presently enjoy. Sugar growers are in a preferred position!

The Marshall Plan can make a lot of difference. Everyone agrees that something has to be done about the rehabilitation of Europe, even though we may proceed with great caution and hesitancy. Sugar is involved, and it is entirely possible that in carrying out any plan of rehabilitation, the value of sugar as an energy-producing food wi be recognized. Already the top men i the Department of Agriculture hav considered very seriously substitutin the calories in sugar where the calorie in grain may not be available to th extent needed in Europe.

The Director of the Sugar Branc said last week in New York:

"There has been much speculatio recently as to the effects of the Eur pean recovery program on the sug supply situation. At this stage, the can be no definite statements regardin the quantities of sugar which will b shipped to Europe this year becaus of several uncertainties which will b cleared up only as we progress furth into the year. * * * Europeans e press their food requirements primaril in terms of grain, which is their mo urgent need, and probably will not tur to sugar and other foods until the know definitely that their grain requir ments cannot be met. There may b some fear on their part that an e pressed request for a considerable quan tity of sugar at this stage might resu in some substitution of sugar for the already inadequate grain allotmen . . . "

There have been some recent deve opments in Cuba which could have profound and far-reaching effect upo sugar markets in the world. The Cuba government very seriously considere the establishment of a single-seller f all Cuban sugar. A substitute plan appointing a "co-ordinator" is now b ing considered and should mean "co

YOUR COUNTY AGENT REPORTS

SUGARCANE PRODUCTION IN ST. MARTIN PARISH

by

Stanley Angelle, County Agent

The acreage of sugarcane in St. Martin Parish has been diminishing slowly during the past three or four years in the northern half of the parish. This reduction is partly made up by the gradual increase in the lower half of the parish. The strictly sugarcane farmers are generally increasing, while the small general crop farmers have been reducing their cane acreage. This acreage has been replaced by cotton, sweet potatoes, cabbage and a variety of truck crops.

In 1947 there were 250 fewer farmers than in 1946. This number looks large, but the acreage involved is not so much. The 1947 acreage was only about 250 acres less than in 1946. The loss of one mill by fire, St. Martin Sugars, Inc. (formerly Ruth Sugars) did not help the situation any. This mill will not be replaced soon and the small farmers are afraid to expand their acreage and not be able to harvest and deliver their cane fast enough.

The 1946 parish yield was around 20 tons to the acre, while the 1947 was around 15 tons. The weather condition was the main cause. The distribution of varieties is not what it should be for best results.

The two varieties giving the best results are the CP 36,105 and the CP 34,120. The supply of CP 34,120 was sufficient to meet the demand but the mills discouraged the planting of CP 34,120 because of its milling qualities. The supply of CP 36,105 was not large enough and generally distributed over the parish to supply the needs, therefore, a large acreage of the varieties whose production is below the CP 36,105 and the CP 34,120 were planted. The CP 36,105 is giving such good results that within a year or two it will be the leading variety in this parish.

The planting of winter legumes, mostly Austrian winter peas, is paying dividends. The acreage planted is limited to some extent by the roaming of cattle in some areas. The damage done by the cattle tramping during the winter months on plant cane is estimated by many to offset the good the winter legumes would do. There are some good arguments on both sides, but regardless of who is right, the acreage planted to winter legumes could be much larger.

---

trolled selling" if it means anything at all.

Another plan still seriously considered would be to place in reserve 1,000,000 tons out of the expected large crop of 1948 Cuban sugar to be marketed only in 1949. Conceivably, this large quantity of sugar which is needed in the world, but for which those who need it most have been unable to pay, could become available to the Administrator of the Marshall Plan, if the decision is made to distribute sugar to relieve the want and starvation of the countries least able to provide for their citizens.

The Sugar Act is not a "cure-all"—it is rather a "shock obsorber" which will serve to take the bumps and ruts along the road of economic life during the next five years. It provides for sugar producers cushions and safeguards to avoid or to lessen the effect of troublesome influences which are expected to beset the producers of agricultural products.

DETERMINATION OF FAIR AND REASONABLE WAGE RATES FOR PERSONS EMPLOYED IN THE PRODUCTION AND CULTIVATION OF SUGAR CANE IN LOUISIANA DURING THE CALENDAR YEAR 1948

Purusant to the provisions of Section 301 (c)(1) of the Sugar Act of 1948, after investigation, and due consideration of the evidence obtained at the public hearing held at New Iberia, Louisiana, on July 26, 1947, the following determination is here issued:

Section 802.24cc. *Fair and reasonable wage rates for persons employed in the production and cultivation of sugarcane in Louisiana during the calendar year* 1948. The requirements of Section 301 (c)(1) of the Sugar Act of 1948 shall be deemed to have been met with respect to the production and cultivation of sugarcane in Louisiana during the calendar year 1948, if all persons employed on the farm during that period in the production and cultivation of sugarcane shall have been paid in full for all such work and shall have been paid wages therefor as follows:

(a) Wages in cash at rates agreed upon between the producer and laborer but in no case less than the following:

(1) *On a time basis.* For all work except as otherwise specified:

Adult males per 9-hour day	$2.90
Adult females, per 9-hour day	$2.40
Tractor drivers, per 9-hour day	$3.65
Teamsters per 9-hour day	$2.90
Workers between 14 and 16 years of age, per 8-hour day	$2.20

For a working day longer or shorter than 9 hours for adult workers (or shorter than 8 hours for workers between 14 and 16 years of age) the rate shall be in proportion to the applicable rate prescribed above. (Maximum employment per day for workers between 14 and 16 years of age is 8 hours.)

(3) *On a piece rate basis.* The rate for all classes of work performed on a piece rate basis shall be as agreed upon between the producer and laborer: *Provided, however* That the average earnings for the time involved on each separate unit of work for which a piece rate is agreed upon shall be not less than the applicable daily or hourly rate provided under subparagraph (1) of this section.

(b) *General Provisions*

(1) In addition to the foregoing the producer shall furnish to the laborer without charge the customary perquisites such as a habitable house, suitable garden plot with facilities for its cultivation pasturage for livestock, medical attention and customary incidentals.

(2) The producer shall not reduce the wage rates to laborers below those determined herein through any subterfuge or device whatsoever.

Statement of Bases and Considerations

A—General

The foregoing determination provides fair and reasonable wage rates to be paid to persons employed on the farm in the production and cultivation of sugarcane in Louisiana during the calendar year 1948. Compliance with the

(Continued on Page 139)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

Two heavy freezes have been experienced in the Louisiana sugar belt since the January 1st issue of THE SUGAR BULLETIN and the fall planted canes and stubble canes have been cut back to the ground. Fortunately the killing cold weather held off long enough for the entire 1947 cane crop to be harvested, which was about the only good break, weatherly speaking, that the 1947 crop experienced all season.

We have reports this issue from some of the County Agents showing the final results in the Parishes listed and comparing these with those obtained in 1946. Many offices throughout the sugar belt were closed because of the lack of heat during the recent cold spell and some of our reports appear to have been frozen with the water pipes and heating plants. We are very grateful to those agents who have managed to get their reports to us in time to beat the dead-line.

Assumption Parish. Moore Valois reported on January 22nd that the grinding campaign in Assumption Parish was completed on January 14th and that the seven mills in his district had ground 523,740 tons of cane. In the 1946 campaign the same mills ground 550,204 tons of cane. The production of cane per acre this season averaged about 16 tons whereas the 1946 tonnage average was 17 tons to the acre. Mr. Valois has supplied us with the figures showing the tons of cane ground by each mill this season and last season and we believe that these will also be interesting to our readers.

This season the Westfield mill ground 108,000 tons of cane compared with a grinding in 1946 of 114,000 tons. Supreme ground 101,500 tons of cane this season and 100,000 tons in 1946. Lula handled 94,000 tons of cane in 1947 and 117,000 tons in 1946. Glenwood ground 83,500 tons of cane this season compared with 85,800 tons last season. Cedar Grove's grinding this season totaled 58,000 tons whereas last season the grinding there amounted to 48,801 tons. Little Texas milled 50,340 tons of cane in 1947 and 49,395 in 1946, and the Star factory ground 28,400 tons of cane this season compared with 35,000 tons in 1946.

The total grinding in Assumption Parish this season was 26,464 tons of cane less than the total grinding in 1946.

Iberia Parish. Reporting on January 22nd from Iberia Parish, W. E. Williams stated that the grinding campaign in his district was completed on January 15th. The cane production this season averaged from 13 to 13.7 per acre compared with an average production per acre in 1946 of 17.6 tons. The mills in Iberia Parish ground about 400,000 tons for sugar this season whereas last season's grinding totaled 524,000 tons.

St. Landry Parish. All harvesting operations were completed in St. Landry Parish by the first of January, and A. K. Smith, Jr., advised us on January 22nd that the cane production in his district had averaged 14 tons to the acre. Last season the average production was 18 tons to the acre. There are no sugar factories in St. Landry Parish.

Lafourche Parish. The grinding campaign in Lafourche Parish was completed on January 18th, according to a report dated January 22nd from A. C. Moreau, with a total grinding of 669,000 tons of cane. The mills in Lafourche Parish handled 689,851 tons of cane in 1946. This season the average cane production per acre was about 17

(Continued on Page 138)

FERTILIZERS FOR SUGAR CANE

by

J. Y. Oakes and M. B. Sturgis

From 1942 through 1944, preliminary field experiments on the fertilization of sugar cane were conducted at 20 different locations, 19 of which were on the terrace (Pleistocene) soils. At 9 out of the 20 locations the highest yields of sugar were obtained from applications of nitrogen, phosphorus and potassium. At 6 locations the highest yields of sugar were obtained from applications of nitrogen and potassium. In 3 tests the largest amounts of sugar were secured from additions of nitrogen and phosphorus. In only two experiments did the use of nitrogen only give the best results.

In 1945, four more comprehensive and better controlled experiments were conducted. These experiments involved fertilization at two levels of nitrogen, one at 40 pounds of nitrogen per acre and the other at 60. The 1945 results show that the highest yields of sugar were obtained on stubble cane with applications of phosphorus and potassium with nitrogen at the 60-pound level. On plant cane the best results were obtained with the combinations with nitrogen at the 40-pound level. On the average the best adapted treatment for stubble cane consisted of 60 pounds of nitrogen, 40 pounds of P_2O_5, and 60 pounds of K_2O per acre.

Six experiments were conducted in 1946 on very fine sandy loam, silt loam, and silty clay loam soils. The 1946 growing season was very wet and both plant and stubble cane responded profitably to nitrogen at the 60-pound-per-acre level. Generally the best adapted treatment was 60 pounds of nitrogen, 25 pounds of P_2O_5, and 40 pounds of K_2O per acre, and the average increase in the yield of sugar from the combination of these amounts of plant food was approximately 1,800 pounds of sugar per acre. The increases in yields of sugar varied from 1,600 to 3,500 pounds per acre. The percentage of purity and the sucros content were not depressed by fertili zers.

The 1946 results show that mor nitrogen could be used on the ver fine sandy loam, silt loam, and silt clay loam soils of the sugar cane area The results also indicate that at high level of nitrogen fertilization phos phate and potash could be added prc fitably.

In 1947 ten experiments were con ducted. At the present time the re sults from only 5 experiments have bee tabulated. Due to the drought throug the 1947 growing season, the yield were about 60 per cent of normal an the results were irregular. In two c the five completed experiments 4 pounds per acre of nitrogen only o plant cane gave the highest yields. I one a 40-40-40 was highest on stubbl cane and in another the 60-0-60 wa highest on plant cane. In the exper ment most nearly normal, the yiel obtained from a mixture containing 6 pounds of nitrogen, 25 pounds of P_2O and 40 pounds of K_2O on stubble can was 32.9 tons of cane. The increas due to fertilizer was 13.6 tons.

It is still commonly recognized tha nitrogen is the most important elemer in the fertilization of sugar cane. Ger erally 6 pounds of commercial nitroge applied to cane increases the produc tion approximately one ton. Th amount of nitrogen applied, which va ries from 40 to 60 pounds per acr is more important than the source c nitrogen. Approximately equally goc results have been obtained from nitra of soda, cynamid, ammonium sulfat ammonium nitrate and ammonia.

Fertilizer Recommendations for Sugar Cane

To stubble cane in all areas exce where known deficiencies of phosphor and potassium exist, apply 40 to 6 pounds of nitrogen per acre by the u

of either solid or liquid carriers. To plant cane except where very large growths of soybeans and winter legumes have been turned under apply at least 40 pounds per acre of nitrogen.

For plant and stubble cane in all areas of low productivity:

(1) Where only nitrogen is deficient, use 40 to 60 pounds of nitrogen per acre.

(2) Where nitrogen and phosphorus are deficient apply 400 to 500 pounds of a 12-8-0 or 10-6-4.

(3) Where nitrogen, phosphorus and potassium are deficient apply 500 to 600 pounds of 9-6-9 or use 300 pounds of 6-8-12 or 3-12-12 supplemented with 40 pounds per acre of nitrogen from either solid or liquid carriers.

(4) Where nitrogen and potassium are deficient apply 400 to 500 pounds of 12-0-12 per acre.

It is well to note that mineral deficiencies are not likely to exist where heavy yields of soybeans and Melilotus are being obtained.

—o—

THE MARKETS

(January 26, 1948)

The Future Market has been nervous lately and the trouble seems to be the uncertainty about a single selling agency in Cuba.

The price of May futures advanced from a low of 5.08 on January 16th to a high of 5.25 on January 21st and 22nd but has dropped back at the close today to 5.17. All of the other months have moved up and down in the same ratio. May is quoted today at 5.17 which is up 2 points since the close on January 9th; July is 5.16, up 1 point; September is 5.17, up 2 points; December is 5.10, up 4 points; and March (1949) is 4.84, up 4 points since January 9th. The quotation on May 1949 is also 4.84, which is up 3 points since the close of the market on January 9th. By far the heaviest trading since the opening of the future market on July 1, 1947 has taken place with 443 transactions reported on January 20th and 235 on January 22nd.

Several sales of actual sugars have been recorded during the period. These were 15,000 bags of Puerto Ricos for prompt delivery, and 3,000 tons of Cubas for February delivery at 5.70 to National on January 12th; 7,500 tons of Cubas for the first half of February shipment at 5.59 to Savannah (equal to 5.65 New York) on January 14th; 6,300 tons of Cubas and Perus for prompt delivery at 5.60 to American on January 15th; and 4,800 tons of Cubas for prompt shipment at 5.65 to American on January 21st.

In the refined sugar market, the National Sugar Refining Company reduced its list price to 8.00 cents a pound on January 19th and the other refiners have also reduced their price basis. Reports indicate that there has been no rush to purchase refined sugar at the reduced quotations.

LOUISIANA MARKETS

The major development as far as the Louisiana market is concerned has been the failure of the Sugar Division of the U. S. Department of Agriculture to recognize the quotation of 5.67 for Louisiana raw sugar established on January 7th by a sale from the Waterford Sugar Cooperative, Inc., to Godchaux Sugars, Inc. This is the first time since the start of 1937 Sugar Act that the Government has failed to recognize the quotations of the Cane Products Trade Association and the Louisiana Sugar & Rice Exchange.

Between 40 and 50 tank cars of Louisiana Blackstrap Molasses were sold during the period at 28 cents a gallon.

Weekly Average Prices

The weekly average prices since the start of the grinding season, issued by the Cane Products Trade Association, have been as follows:

For the week ending October 9th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 16th. Raws 6.32. Blackstrap 23 cents.

For the week ending October 23rd. Raws 6.32. Blackstrap 25 cents.

For the week ending October 30th. Raws 6.32. Blackstrap 25.90 cents.

For the week ending November 6th. Raws 6.32. Blackstrap 26 cents.

For the week ending November 13th. Raws 6.32. Blackstrap 26.25.

For the week ending November 20th. Raws 6.32. Blackstrap 27.00 cents.

For the week ending November 27th. Raws 6.32. Blackstrap 27.00 cents

For the week ending December 4th. Raws 6.32. Blackstrap 27.80 cents.

For the week ending December 11th. Raws 6.32. Blackstrap 28.00 cents.

For the week ending December 18th. Raws 6.32. Blackstrap 28.00 cents.

For the week ending December 25th. Raws 6.32. Blackstrap 28.00.

For the week ending January 1st. Raws 6.32. Blackstrap 28.00.

For the week ending January 8th. Raws 6.06. Blackstrap 28.00.

For the week ending January 15th. Raws 5.67. Blackstrap 28.00.

For the week ending January 22nd. Raws 5.67. Blackstrap 28.00.

The average price of Louisiana blackstrap molasses for the sixteen weeks ending January 22nd is 26.684.

The weekly average price of raw sugar quoted by the Production and Marketing Administration beginning with the week ending January 8th has been as follows:

For the week ending January 8th, Raws 6.32.

For the week ending January 15th, Raws 5.79.

For the week ending January 22nd, Raws 5.62.

The cane purchase contract period ends on Thursday, January 29th, 1948.

Crop News

(Continued from Page 135)

tons compared with a 18.1 ton per acre production last season.

St. James Parish. A report from Joseph Lamandola, county agent of St James Parish, dated January 23rd states that the grinding campaign in his district was completed on January 15th and that 296,243 tons of cane were milled. This compares with a 1946 grinding of 299,442 tons. The average cane production this season came to 16.6 tons per acre whereas last season's crop averaged 18 tons of cane to the acre.

Lafayette Parish. The production of cane per acre averaged only 12 tons in Lafayette Parish this season compared with a production of 20 tons to the acre in 1946, according to a report from S. J. Bowles dated January 23rd. Mr. Bowles states that all of the mills in his district had finished grinding by December 28th and that about 100,000 tons of cane had been milled. Last season the mills in Lafayette Parish ground 140,000 tons of cane.

Estimated Final 1947 Cane and Sugar Production

THE SUGAR BULLETIN is advised by Dr. W. M. Grayson, Chief of the Louisiana Division of the Production and Marketing Administration, that the 1947-48 Louisiana grinding campaign produced approximately the following results:

> Tons of cane ground by the 59 mills equipped to make sugar, 4,045,000 short tons.
> Sugar production, raw value, not including the sugar in Magma, 296,830 short tons.

The reason Dr. Grayson reports these figures as "approximately final" is because two or three mills had not filed their final production figures when THE SUGAR BULLETIN had to go to press.

Determination of Wage Rates

(Continued from Page 134)

letermination is required as one of the conditions for payments to producers of sugarcane in Louisiana under the Sugar Act of 1948. In this Statement, he foregoing determination as well as determinations for prior years will be referred to as "wage determination" dentified by the calendar year for which effective.

3—Requirements of Sugar Act

In determining fair and reasonable wage rates, the Sugar Act requires that a public hearing shall be held, that investigations be made, and that consideration be given (1) to the standards herefor formerly established by the Secretary under the Agricultural Adustment Act, as amended, and (2) to he differences in conditions that exist among the various sugar producing reas.

A public hearing was held in New beria, Louisiana, on July 26, 1947, t which time interested persons were iven an opportunity to present testinony with respect to fair and reasonble wage rates for sugarcane production and cultivation work during the alendar year 1948. In addition, investigations have been made of the present conditions relating to the sugar industry in Louisiana. Consideration has been given to the information obtained t the hearing and to the information btained as a result of the investigaions. The determination for the calndar year 1948, as well as those estabished for prior years, have been based argely on three factors: (1) Relationhip of wages to income from sugarane; (2) relationship of wages to prices f sugar; and (3) relationship of labor osts to total costs. The investigation f these factors has been supplemented y investigations of various other facors, including cost of living, cost of roducing sugarcane and wages paid in ther agricultural employment.

—Background

Determinations of fair and reasonble wage rates for work in the proluction and cultivation of sugarcane in

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Louisiana have been issued for each calendar year since 1938. The earlier determinations provided specific time rates for adult male workers and adult female workers. In 1940, rates were also established for teamsters, tractor drivers and workers between 14 and 16 years of age. The basic adult male rate established in the 1938 wage determination was increased by 20 cents per day over the rate paid in the previous year. This level of rates maintained the previous wage-price relationship which had been in existence in this area in prior years. Beginning with the calendar year 1941, wage rates have been determined primarily on the basis of the wage-price relationship existing during the period 1938-40. This base period has been generally accepted by both producers and laborers. In more recent years, however, this basic wage-price relationship has been altered by the consideration of prices paid for food and clothing by sugarcane workers. At the public hearing held in July, 1947, producer representatives recommended that in 1948 a departure be made from the historic wage-price relationship to give effect to the very significant increase in living costs which had occurred. In the 1948 wage determination consideration has been given to this recommendation and to the factors which have customarily been considered in prior wage determinations.

D—1948 *Wage Determination*

After appropriate investigation, due consideration of the evidence submitted at the hearing, and an examination of factors heretofore outlined, the terms and conditions of the 1947 wage determination are considered fair and reasonable for the calendar year 1948 except that the rates specified for the several

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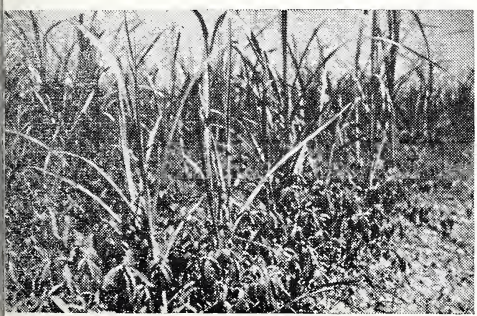

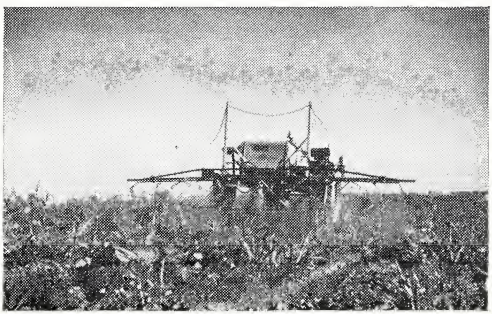

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classes of workers in the 1947 wage determination are increased by about 12 per cent for the calendar year 1948. This increase in basic time rates is deemed equitable in order to maintain the standard of living of workers in 1948 at about the level which existed during the base period 1938-40.

E—General Discussion of Factors

As indicated above, the 1948 wage rates have not been based upon a strict application of the wage-price relationship which existed in the base period 1938-40. Increases in living costs have been considered. Data available indicate that the cost of food and clothing has risen about 133 per cent since the base period. However, an examination of the costs of producing sugarcane indicates that the ratio of labor costs to total costs in 1948 (based upon the above level of wages) will be somewhat less than that which existed in the period 1938-40. For the period 1938-40, labor costs represented approximately 43 per cent of the total cost of producing sugarcane while it is estimated that in 1948 as a result of increased mechanization, labor costs may represent about 40 per cent of the total cost of producing sugarcane.

Accordingly, I hereby find and conclude that the foregoing wage rates for the production and cultivation of sugarcane in Louisiana during 1948 are fair and reasonable and that compliance therewith will effectuate the purposes of the Sugar Act of 1948. (Secs. 301 and 403 of Pub. L 388, 80th Congress.

Issued this 16th day of January 1948.

/s/ N. E. DODD,

Acting Secretary of Agriculture

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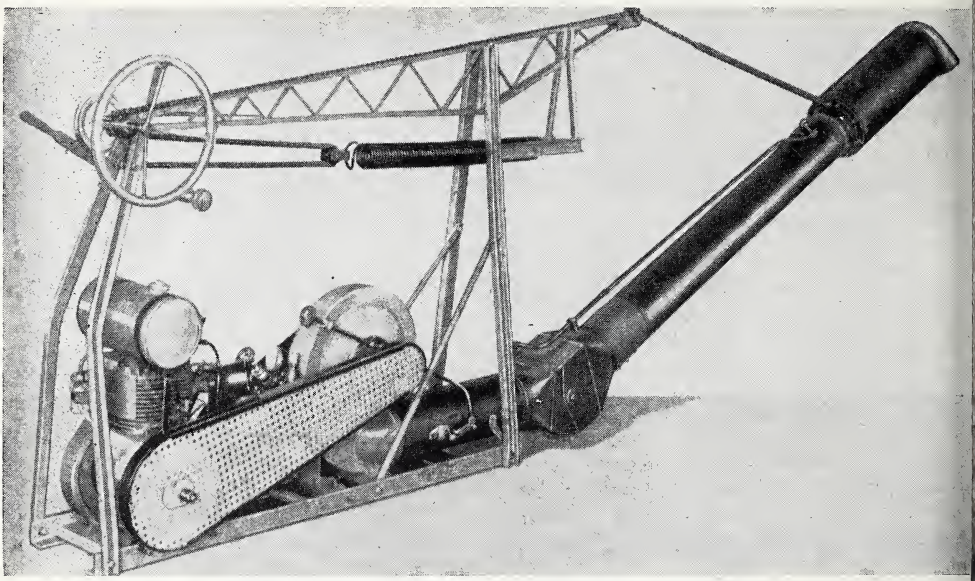

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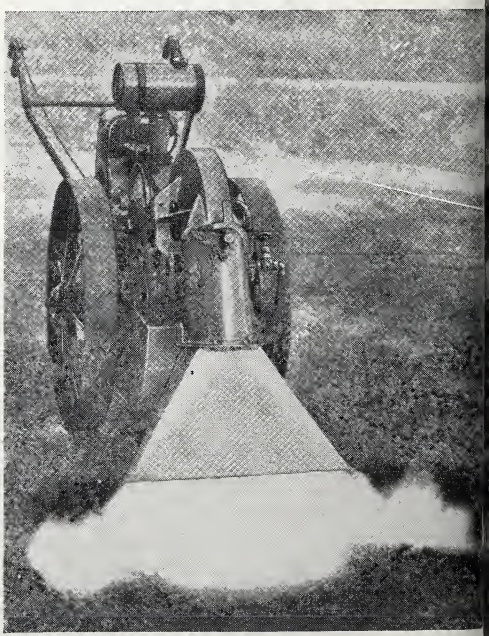

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THE SUGAR BULLETIN

d as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., FEBRUARY 15, 1948 No. 10

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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Walter Godchaux, Jr., New Orleans, La.
F. A. Graugnard, Jr., St. James, La.
E. N. Kearny, New Orleans, La.
Leon J. Landry, New Iberia, La.
H. Langdon Laws, Cinclare, La.
Stephen C. Munson, Jeanerette, La.
George M. Murrell, Bayou Goula, La.
Charles O'Brien, Bunkie, La.
David W. Pipes, Jr., Houma, La.
Louis Robichaux, New Orleans, La.
J. J. Shaffer, Jr., Ellendale, La.
Ed. Schexnayder, Bayou Goula, La.
Dubourg Thibaut, Donaldsonville, La.
Spencer G. Todd, Franklin, La.
G. G. Trowbridge, Jr., Franklin, La.
Louis Wilbert, Plaquemine, La.

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Crop News By Parishes has been omitted from this issue because most County Agents considered it too early to report on the new cane crop.

IN WASHINGTON WITH C. J. BOURG

THE sugar industry is vitally interested in the price policy of the Department of Agriculture and with that interest in mind, we quote pertinent paragraphs from the remarks of James H. Marshall, Director, Sugar Branch, before the Sugar Club, New York City, January 20, 1948.

"I know you will recognize that the administrative operations under the Sugar Act of 1948 are so comprehensive that it will not be possible to discuss in any detail the problems involved in the administration of each of the major sections of the Act. Therefore, it will be necessary to select a few provisions of the Act which are of most interest currently and discuss them briefly. * *

"The Sugar Act of 1948 is, in the most practical sense, an extension of the Sugar Act of 1937, as amended, but it is an extension which takes cognizance of numerous changes which have taken place in the sugar industry during the past few years. The general objectives of the 1948 Act, as stated in its title, are identical with the objectives stated in the 1937 Act. The methods of obtaining the objectives have been modified to some extent by the new Act.

"Among the changes in methods contained in the new Act are the provisions of its Section 201 which deals with the factors to be considered by the Secretary of Agriculture in his determination of the amount of sugar needed each year to meet the requirements of consumers in the continental United States. The guiding principle of this determination is that it "shall be made so as to protect the welfare of consumers and of those engaged in the domestic sugar industry by providing such supply of sugar as will be consumed at prices which will not be excessive to consumers and which will fairly and equitably maintain the welfare of the domestic sugar industry. . . "

"A great deal of comment has been occasioned by inclusion in this section of the Act of the ratio of price to cost of living as a factor to be considered in determining consumption requirements. An occasional inference is heard to the effect that the price of sugar which the Secretary must seek to achieve can automatically be calculated from the cost-of-living index. This inference, of course, is wrong. If any such absolute relationship between the cost-of-living index and the price of sugar had been intended, there would have been no point of including the other bases and standards which are a part of Section 201 of the Act. The cost-of-living factor is not interpreted by the Department of Agriculture as a controlling or overriding factor in determining a price of sugar which must prevail during 1948 or any other year. This ratio of price to cost of living is simply one factor among several others which must be taken into account in determining the level of consumption requirements. It was our understanding at the time the Bill was under consideration in the Congress, and it is still our understanding, that this interpretation is generally accepted.

"In accordance with the law, this fac-

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EXPERIENCES WITH NITROGEN FROM AMMONIA—YAZOO-MISSISSPPI DELTA

By Perrin H. Grissom, Agronomist, Delta Branch Experiment Station
Stoneville, Mississippi

Although animal manures and green manures had been used for centuries to increase crop yields, the necessity of nitrogen for plant growth was not recognized until 1857 by the Rothamsted Experiment Station in England. However, commercial nitrogen was available about 1830 as nitrate of soda mined in South America. Near the end of the nineteenth century, nitrogen fertilizer was produced in the United States as a by-product of the coking industry. A short time later methods of preparing synthetic nitrogen were introduced which took nitrogen directly from the air. These processes, with improvements, are being used to manufacture most of our present-day commercial nitrogen.

Manufacture and Characteristics

The first step in the manufacture of many of our common nitrogenous fertilizer materials such as ammonium nitrate, synthetic nitrate of soda, and urea is the manufacture of ammonia. This is produced by taking nitrogen from the air and combining it with hydrogen in the presence of iron rust. Anhydrous ammonia contains 82 per cent nitrogen. At atmospheric pressure and normal temperatures, it exists as a gas. Below minus 28° Fahrenheit, anhydrous ammonia is in liquid form and boils at that temperature. At 50° Fahrenheit, it exerts a pressure of 75 pounds per square inch, and at 100° Fahrenheit, the pressure is 197 pounds per square inch. Pressure exerted by anhydrous ammonia are comparable to those of propane, now used rather extensively in some farming areas as fuel for flame cultivators. Further processing of ammonia to transform it into granular form adds to the cost per pound of nitrogen to the farmer. In many cases the additional costs may account for one-half the total cost of nitrogen in the resulting solids.

Research

The possibility of the application of ammonia directly to the soil as a fertilizer, thereby cheapening the cost of nitrogen, prompted the initiation of studies by the Mississippi Agricultural Experiment Station in 1943. These were intended to determine crop responses to ammonia as a source of nitrogen. This study was under the direction of Dr. W. B. Andrews, Associate Agronomist, and Mr. F. E. Edwards, Associate Agricultural Engineer at the Mississippi Agricultural Experiment Station. The Delta Branch Experiment Station at Stoneville, Mississippi, has cooperated in this work. Tennessee Valley Authority has provided aid by supplying ammonia and defraying a part of the expenses for the work. Actually, the first work was with aqua ammonia which contains about 30 per cent ammonia. In 1944 equipment was designed to apply anhydrous ammonia on an experimental basis to determine its value from an agronomic standpoint. Cotton, corn and oats have been fertilized with anhydrous ammonia in tests for the past 4 years. In these tests anhydrous ammonia has been compared with four sources of nitrogen in solid form—Ammonium nitrate, cyanamid, ammonium sulphate, and nitrate of soda. Crop yields, in relation to pounds of nitrogen show that anhydrous ammonia is equally as effective as other forms of commercial nitrogen.

The studies have not included sugar cane, since it is not produced on a large scale commercially in Mississippi. The results of fertilizer experiments that have been conducted at different loca

(Continued on Page 155)

YOUR COUNTY AGENT REPORTS

RESULTS ON IRRIGATED CANE, 1947 IN IBERIA PARISH

By W. E. William, County Agent

Mark Twain is credited with this statement, "We all talk about the weather but not one does anything about it". Evidently Mr. Ulysses Gonsoulin didn't hear about this remark, or if he did, he didn't pay much attention to it, because he did something about the drought in the summer of 1947 and it paid a handsome dividend.

On Mr. Gonsoulin's farm, located near New Iberia, 19 acres of C.P. 29-116 plant cane and 16 acres of C.O. 290 plant cane were irrigated during June, July, and August of 1947 when crops were suffering for the lack of rain throughout the parish.

By irrigating this cane times at a cost of about $2.50 per acre he reported the following results: On the 19 acres of C.P. 29-116 he averaged 25 tons per acre. On the 16 acres of C.O. 290 irrigated he averaged 21 tons per acre. In the same field, a short distance away, Mr. Gonsolin had check plots of C.P. 29-116 and C.O. 290 plant cane which were not irrigated. On the unirrigated C.P. 29-116 he made 20 tons per acre or tons less than that which was irrigated. On the C.O. 290 irrigated plot the yield was 17 tons or 4 tons per acre less than the irrigated plot. The parish average for 1947 is estimated at 13.5 to 14 tons per acre.

All the cane, both irrigated plots and check plots, had a heavy crop of Austrian winter peas turned under in the spring, and the cane was fertilized with 40 lbs. of nitrogen per acre.

In dollars and cents, on an acre basis the irrigated cane averaged 4½ tons more per acre than the unirrigated. At today's market price it gave an increased gross return of $37.35. It cost $2.50 per acre to irrigate and it cost $1.50 per ton or $6.75 to harvest the increased 4½ tons. In other words, the total increased cost was $9.25. When

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MR. DUPLANTIS DISCUSSES THE CANE PURCHASE CONTRACT

The letter printed below was written by Mr. C. A. Duplantis, Jr., General Manager of the Sunrise Planting Corporation of Franklin, Louisiana, on January 28th.

The Editor is glad to be able to comply with Mr. Duplantis' request that his letter be published in THE SUGAR BULLETIN and will always welcome letters from our readers on any subjects that are of interest to the Louisiana Sugar Industry.

Franklin, La.
January 28, 1948

Mr. Marcel J. Voorhies, Editor
The Sugar Bulletin
414 Whitney Bldg.,
New Orleans, 12, La.

Dear Sir:

Re: Mr. Walter Godchaux's letter printed in your Jan. 15th issue.

The 1937 Sugar Act is 10 years old. If in 10 years the inefficient mills in Louisiana have not been able to make themselves efficient, then let them continue to operate inefficiently and stand their own losses. It is not fair to ask an overburdened man to relieve you of your load when yours is the lighter of two loads.

This year the mill people overdid trash deductions in the hope that 1947 would be used as an average by the Sugar Division. The grower-processor hoped that his loss in Benefit Payments for the 1947 crop would be offset by a policy adopted by the Sugar Division. This policy once adopted would be hard to revoke.

You, Mr. Godchaux, as an individual, do not believe in penalties or deductions that are based on physical objects such as cane shucks. Deductions that are applicable against an individual grower and are if properly administered imminently fair. As I interpret your letter, you would prefer a contract formulated on dirty cane calling all cane clean or dirty as delivered to you (dirty cane). In lieu of shuck deductions manipulate the factors in the laboratories. Here it would not leave a bad taste.

If I misinterpret your meaning and you mean that you as an individual are against any penalties or deductions whatsoever and are saying that you will not stand for or permit the farmer to receive less money for his product then I stand corrected. However, the Government has no cane to sell, and I cannot conceive of them entering into the purchase contract as a third party. Rather, I think you ask the farmer to subsidize your operation. You would operate in much the same way as the corporate tax operates.

While I agree with you, Mr. Godchaux, that cane should be cut in the last joint (mature joint) and reasonably clean of trash, what you fail to state is that with the advent of mechanical harvesting came the juggling of the factor. The hand mill test is made to agree with the big mill test. In other words to prevent paying excessive benefit payment the U. S. Government through the Department of Agriculture and Dr. Grayson who is in charge of the Production and Marketing branch of the Sugar Division for Louisiana visits or has his representative visit each mill several time during the grinding season to see that the correct factors are in use. In 1946 these factors did not work out. The Sugar Division claims that the U. S. Government paid out in benefit payments an amount that was excessive in comparison to the number of tons of sugar sold on the of the counter. Black Market operations by unscrupulous millmen and high molasses market legitimate and otherwise are two of the contributing factors.

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IN WASHINGTON

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tor must be taken into account. In announcing the consumption estimate for 1948, the Department stated that after determining the base quantity of sugar, the quantity consumed during the 12-month period ending October 31, 1947, and after making allowance for deficiencies in inventories and for changes in population and demand conditions, no additional allowance was required at this time with respect to the relationship between the price of sugar and the cost of living. This did not mean the cost-of-living factor had not been taken into consideration. It merely meant that after making allowances for the other factors it was not considered necessary at this time to make any further allowance for the cost-of-living factor in order to achieve the price objective which the Department felt should be achieved by its estimate.

"Already we have had complaints that the initial consumption estimate is too high and will result in prices too low to fairly and equitably maintain and protect the welfare of the domestic sugar industry. It seems to me that it is a little early for this complaint to be backed with vigor in view of the limited volume of trading which has occurred since the estimate was announced. We make no claim of infallability in our capacity to make an estimate at this time which will prove to be a correct and final estimate for the year. We recognize that under current circumstances, representing very significantly changed economic conditions since the time of the pre-war consumption estimates, many of the old guide posts are of limited value until they can be checked and adjusted by experience under the new conditions of national income and purchasing power existing today. Obviously, the current estimate indicates our best judgment as to the quantity of sugar which can be marketed at prices which we feel will meet the standards of the Act. If our judgment is proved to be wrong, as it very well may be, adjustments will be necessary. Under the current high levels of purchasing power it seems the United States might easily consume 7,800,000 short tons of sugar at price levels not significantly different from those which recently have prevailed at the wholesale (primary distributor) level as long as other economic conditions do not change materially. However, the mere fact that what may appear to be a liberal estimate has been made in the beginning, in order to assure an adequate supply of sugar for consumers, should not be used as a means of pushing down prices early in the year to a point below that expected as an average for the year under the initial consumption estimate. It would be a mistake to use the original estimate for such purposes, because, if it were used in such manner, the only result would be a necessary reduction in the estimate. This would not be to the best interest of consumers.

"In view of the great interest in the price level for sugar which will result from a given consumption estimate, we have frequently been asked why we do not specify the price objective we are attempting to achieve with the consumption estimate which is announced. We have given some thought to this and have listened to the views of numerous people, some of whom feel it would be advantageous to have the price objective definitely stated in terms of dollars and cents and others feel that this would not be desirable. We have reached no final conclusion on this but obviously our tentative conclusion has been not to state any such price objective. In such discussions as we have had, the question most frequently asked has been: Would not such a statement of price objective largely eliminate the function of the Sugar Exchange? If the Department should state its price objective and make it clear that it would take the necessary steps to try to achieve such objective, the field of operation of the Sugar Exchange certainly would be limited. Another frequent question is: Would not such a statement of price objective constitute price fixing? There would be little, if any, firmer element of price fixing under this procedure than under

the present procedure. It merely would call attention a little more pointedly to the objective of the Act; namely, to achieve a price which will fairly and equitably maintain and protect the domestic sugar industry and which will not be excessive to consumers.

"It should be recognized that the quota system, which is based on the consumption estimate, is limited in the degree to which it determines a price level for sugar. It has been generally assumed that a low estimate of consumption automatically insures a high price level and a high estimate of consumption a lower price level. While the general tendencies may be in these directions, the result will not always be as indicated. For example, in the years 1936 and 1937, when the highest sugar quotas of the 1934-38 period were established, the price of sugar, duty paid, averaged higher than in the years of low estimates. A number of factors are involved. Of special importance is the quantity of sugar available behind the quota wall awaiting disposition. Based on the estimate of this year's Cuban crop, there will be a large quantity of sugar available above the requirements of countries, other than the United States, which can be backed up by the necessary dollars. The outlook for the disposition of this large volume of sugar will, no doubt, have a very significant influence on our sugar market in the United States until final decisions are made regarding the quantities of sugar which can be sold by Cuba to foreign countries under the various foreign relief and aid programs."

THE MARKETS

(February 11, 1948)

The Number 5 contract in sugar futures has continued its downward trend since our last report and the closing quotations today place May at 5.02 which is down 15 points since the close on January 26th. July is 5.01 down 15 points, September 5.01, down 16 points, and December 4.92 which is down 18 points since the close on January 26th. March 1949 closed today at 4.66, down 18 points, and May 1949 closed at 4.65 which is down 19 points since our last report.

The sales of actual sugars recorded during the period under review consisted of 4,000 tons of Cubas and 20,000 bags of Puerto Ricos (on January 27th) for the first half of February shipment at 5.65 to National; 9,000 tons of Cubas for February shipment (on January 29th) at 5.57 to American; 2,000 tons of Philippines (on January 30th) for March and April shipments at 5.65 to Sucrest; 4,500 tons of Cubas (on February 4th) for February shipment at 5.50 to American; and 3,300 tons of Cubas and 20,000 bags of Puerto Ricos (on February 6th) both for prompt shipment at 5.45 to National.

In the refined sugar market, the National Sugar Refining Company reduced its list price 25 points on February 9th from the old price of 8 cents per pound to 7.75 cents per pound, and all other refiners followed suit.

The spot price of raw sugar today 5.45 *cents per pound which is an* 8 *point drop since the first week in January.*

The list price of refined sugar today is 7.75 *cents per pound, which is* 6 *cents a hundred pounds less than the early January price.*

LOUISIANA MARKETS

The Louisiana pricing season ended on January 29th with the confusion that began when the Government failed to recognize a spot sale of Louisiana raws on January 7th continuing to prevail.

The Cane Products Trade Association and the Louisiana Sugar and Rice Exchange both quoted the average price of Louisiana raws for the week ending January 29th at 5.67 whereas the Government's average was 5.62.

The Exchanges fixed the Season's Average Price of Louisiana raw sugar at 6.19 but the Government's price was 6.206 cents per pound.

Using the 6.206 figure the Production and Marketing Administration fixed the Season's Average Price of a ton of Standard Cane at $6.392.

MR. DUPLANTIS

(Continued from Page 150)

All cane coming in to any one mill is subject to the same fact. If one grower does a good job, sends in clean cane, fresh cane, and does everything right, he has the same factor applied against him as the slip-shod who sends in cane cut far in advance, whose sucrose may be good but purity low. How about a uniform set of factors for the whole industry based upon the 5 leading cooperatives?

By selling cane according to hundred weights of sugar (sucrose) and not like was done in the old days by the ton of cane, a cure all was supposed to have been affected by the mill men for their end of the business. This was supposed to take care of the late plower, the farmer who made his crop with fertilizer instead of muscle, etc. Enter here the laboratory, the sucrose boy, and the chemist.

Now something unforeseen at the time this switch was made crops up, the mechanical harvester. Here the mill men settle for all their woes. Yes, the mechanical harvester is responsible for some of the Sugar Mill Owner's woes but in a far different light than they are looking at it.

The mechanical harvester has placed the field far ahead of the mill in ability to save a crop. The place to do the job is not in detrashing at the mill, not in further juggling of the sucrose factor, not in changing the Purchase Contract, not blaming the one man loader, the mechanical harvester, for too much trash, etc., but in seeing to it that this trash, this mud, these weeds are fresh. The trash, mud, weeds, etc., that Mr. Godchaux sees floating around the top of his settler is not mud, trash, weeds, etc., at all, it is deteriorated cane in which the sucrose has held but purity dropped.

What Mr. Godchaux has to do is to see that the whole army of growers who are selling him cane sell him fresh cane. The mechanical harvesters cutting for toll have a great deal to do with the freshness of this cane supply. The owners move onto one place, cut enough for a week in one day for this particular farmer, move to another farm, do the same thing, and reproduce this over and over again, adding up to Mr. Godchaux's troubles. He is probably guilty here himself, if he checks closely.

In detrashing cane and levelling a penalty, the mill owners are cleaning the shipper cane. Whether cane be cleaned by fire, with a cane knife, or with a pencil, it is clean cane. Yet the sucrose test is run on the so-called dirty or trashy cane.

Add up trash deductions, factors that were established to take care of the millmen because of the mechanical harvester, sucrose test on cane as delivered to the mill not after detrashing, the hand mill test made to agree with the big mill, and if with all these, the millman cannot show a profit, then it is time for him to take stock and change the part of the management that is responsible for his being in the red.

Again, I cannot agree with Mr. Godchaux on delivering trashy cane. Cane hauled with all the trash on it is too bulky. This will only add to the cost of harvesting. Too many trips will have to be made from the field to the mill to haul a crop with all the trash on it.

I have carefully watched the milling of the 1946 crop and the milling of the 1947 crop in relation to trashy cane and deteriorated cane. In 1946 when all the state was having trouble, the mill to which I was selling my cane was also having trouble. In dry weather when everything was clicking in the field, cane burning good, practically no dirt coming in, etc., the settler and Oliver filter were in trouble. We began to try to find the cause.

Sucrose was good, but purity, low. It was a good year for the shipper but not for the mill. One of the other shippers and I fed the carrier from under the cane shed, while the other derrick stacked the other shippers cane on the pile. We ran a crusher test. The sucrose was normal, purity good, and the color of the juice coming into the juice tank was a better color than it had been previously. We knew that

we both had hauled fresh cane. The harvesters were stopped, in fact all cutting and the mill caught up with the field. Cane from then on was cut according to what the mill could grind in a reasonable time.

Settler trouble disappeared, and the Oliver filter kept up easily, all this taking place while we were going out of a dry spell into a rainy spell, when mud really began to come in.

The 1946 crop having taught us such a good lesson, no trouble was experienced in the 1947 crop. The mill was waiting on cane part of the time due to a short crop and a new mill in the area which diverted some of its supply elsewhere. Not one time but on several occasions the Oliver filter had to be stopped for several hours at a time; often it only ran at half capacity. At no time during 1947 did clarification give this mill any trouble.

No, Mr. Godchaux, it is not trash that gives you trouble with your clarification; it is not extraneous matter that is greatly diminishing the milling rate of your factory; it is not trash that is running the cost of plant operation up, but instead inverted and deteriorated cane which you cannot get through your boiling house. I dare say without ever having been in or near your factory that it was not a question of cane going through the rollers but inability of the clarification process that caused the low milling capacity.

Let's go back a little further than the poor farmer. While he is part of your trouble, you in your determination to make him give you extra clean cane have caused him to refrain from burning the trash too quickly. He cuts his cane further ahead than he ordinarily would try to get the green flag which you are talking about to dry and burn when he burns the other trashy matter.

While we are going back a little further than the farmer, let's go back to the U. S. Government Experiment Station. While the fine men who make their living breeding cane for our sugar industry have done a fine job, it still remains for them to give us an early maturing cane that will resist deterioration. It has been my experience that at the start of the grinding season when the weather is hot and dry is when most trouble is experienced and most care should be expended. When the cool weather sets in and the ground becomes wet, the nights longer, much less trouble with deterioration is experienced.

I say, in summary, that cane should be cut in the last mature joint and reasonably free from trash. I also say that you are protected by your laboratory from cane not cut in the last mature joint, are allowed to use a factor by which the hand mill test is made to agree with the big mill to take care of the leaks due to mechanical harvesting. You weigh the cane you purchase on a government tested scale and detrash the cane you purchase with a pencil. Figure the sucrose not on the detrashed cane but on the cane as it comes across the scale. Until this year you did not make any allowances for cane with excessive water on it when it went through the hand mill.

If you have not overlooked the fact you are buying hundred weights of sugar, not tons of cane, and have been figuring your sugar yield on detrashed and converted cane and still can't stay in business with all these safeguards and iron clad conditions in your favor, and if your mill is efficient and you are not trying to pass on the burden of your inefficiency to others, then look ahead of you, not behind you for your troubles.

It may be the price of sugar? You can recall when white sugar was 4c lb., raw cotton 4c lb., salt meat 4c lb. White sugar is now about 10c lb., raw cotton 40c lb., salt meat 80c lb.

Let's make our fight together for a higher price of sugar and go forward together, not rob Peter to pay Paul.

Yours very truly,

Sunrise Planting Corporation
C. A. Duplantis, Jr.
General Manager

Experiences with Nitrogen

(Continued from Page 148)

ions with sugarcane using granular fertilizers, roughly, parallel the findings with cotton and corn in the alluvial areas in Mississippi.

The determination of crop responses to ammonia as a source of nitrogen required the development of equipment that would handle ammonia accurately and with a minimum of danger. When the effectiveness of ammonia for crop production had been proved, the task confronting research workers and farmers was the practical application on a field basis.

Equipment for Applying Anhydrous Ammonia

The first equipment for applying anhydrous ammonia to row crops was a one-row machine. The experimental machine was equipped with a standard ammonia cylinder and a rotometer for accurate metering. These were not well adapted for farm use. Because of the lack of suitable fittings, valves, and materials, much improvising was necessary when field machines were built. Briefly, the machines used at the present time by Mississippi farmers consist of a 70-to-110-gallon, tractor-mounted tank with the necessary fittings for ammonia, pressure hoses to take the ammonia from the tank to the ground, regulators or valves to control the flow, a manifold with orifices to direct the ammonia to the rows, and applicators to deposit the ammonia directly into the soil so that simultaneous covering can be accomplished. The regulators are of two types, differential pressure regulators and needle valve and gauge. Most of the machines are designed to apply ammonia on two to five rows. In fertilizing sugarcane, a two-row machine will probably be desired.

Anhydrous ammonia has been applied by the following methods in the Mississippi Delta:

(1) Prior to planting on prepared level ground
(2) Prior to planting on bedded land
(3) Prior to planting, while bedding the land with middle breakers
(4) As a side dressing, either in conjunction with cultivation or as a separate operation

In the Mississippi Delta, a preplanting application for cotton and corn is preferred. However, side dressing has proved quite satisfactory. As to rates and time of application for sugarcane, the Louisiana Experiment Station should be consulted.

Sugarcane growers who have used ammonia this year have applied it in conjunction with cultivation. This practice may be particularly adapted when a chopper is used. Placing the applicators on the inside of the discs to apply a band of ammonia to the side of the row should give satisfactory results. Regardless of the system of application that is devised, it is absolutely essential that the anhydrous ammonia be well covered to prevent loss by vaporization. It is very easy to ascertain whether this is being done satisfactorily. If ammonia can be seen escaping from the ground as a white fog, the coverage is inadequate. Disc hillers have been used in Mississippi to facilitate the covering very satisfactorily.

Behavior of Ammonia in the Soil

The question often arises as to what happens to the ammonia when it is sealed in the soil. Ammonia in the soil is fixed on the clay particles and held there subject to natural soil processes. Over a period of time the ammonia will be changed to nitrates. The rapidity of the change will be dependent upon moisture, temperature, and soil acidity. Due to the pattern of behavior of ammonia, losses by leaching are minimized. However, it is still available rapidly enough to satisfy crop needs.

Problems

Some of the problems encountered with the present farm equipment which remain to be solved are:

(1) Finding a more satisfactory sealing compound for the fittings to prevent losses
(2) Applicators of a more durable nature are needed. The applica-

tors that have been used this season have shown signs of considerable wear when 200 or 300 acres had been fertilized

(3) Securing satisfactory coverage on heavy soils has been a big problem. It is necessary that the soil be in a rather good state of tilth. Disc hillers as coverers have proved very helpful.

(4) A satisfactory method of accurately metering the ammonia has not been devised at the present time, although the accuracy obtained is probably greater than when solid materials are applied with fertilizer distributors. Both the differential pressure regulator and the needle valve which are in common usage regulate the flow in relation to time rather than the speed of the tractor. For this reason, the speed of the tractor must be considered when setting the regulator gauges.

(5) The ammonia valves and fittings commonly used on field machines need to be improved.

(6) Probably the biggest problem encountered in the handling of anhydrous ammonia is that of storage. It is necessary to have rather large high-cost tanks for this purpose. From a dealer's standpoint, apparently it will be necessary to have sufficient storage capacity to take delivery of ammonia on a year-round basis. The manufacturers produce ammonia on such a schedule, and due to insufficient storage, they must make deliveries frequently. If a system can be worked out for the individual farmer to accept deliveries from the dealer at various times during the year, even off-season, this would reduce the dealer's storage capacity requirements. If the Louisiana situation is comparable to that in the Mississippi Delta, the storage burden is going to rest largely with the dealer. In Mississippi, several co-ops are installing Horton spheres with a capacity of 210,000 gallons. Large farms would probably find a 6,000 or 12,000 gallons storage tank to be desirable. Farmers with a smaller acreage and with small storage facilities would have to depend directly upon the dealer or the co-op with which he might be affiliated for frequent deliveries.

Precautions

Anhydrous ammonia exerts high pressures. For that reason, tanks and fittings must have adequate margins of safety for the pressures; otherwise the individual is endangered. It is recommended that all tanks have a 250-pound working pressure at 350° Fahrenheit. If tanks with a working pres-

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ure of 200 pounds per square inch are sed then shading or sprinkling must e used to keep temperatures down n hot weather. All of them must be quipped with relief or pop-off valves o guard against rises in pressure with igh temperatures. All valves and fit-ngs should be made of iron or steel. anks should never be filled to more nan 90 per cent of capacity. Ammo-ia is not highly inflammable, but it ill burn. In case of direct contacts ith the skin, the affected parts should e immersed in water. If ammonia hould get into the eyes, it should be ashed out immediately and a doctor ntacted.

dvantages of Anhydrous Ammonia as Compared With Solid Nitrogenous Materials

There are two main reasons why farers in the Yazoo-Mississippi Delta rned to ammonia as a source of nitroen in 1947—availability and cheapess. Shortage of solid materials is robably the most important factor the quick turn to ammonia. This a temporary advantage. Relative ices will be long-time determinant the extent of its use. Based upon 47 prices, the costs of a pound of trogen from different sources are proximately:

Source	Cost
Anhydrous ammonia	6c
Ammonium nitrate	9-9½c
Cyanamid	13c
Nitrate of soda	15-16c

here are other advantages of lesser portance which will have some inience on future use. They are: Reiction in bulk that must be handled d increased yields resulting from eper and more accurate placement. his will be more pronounced when le-dressing applications are made due placing the nitrogen into the root ne. Lower costs for side dressing e possible since it may be done in njunction with regular cultivations.

Aqua Ammonia

So far this discussion has dealt pririly with anhydrous ammonia. The e of aqua ammonia, particularly on all farms, offers possibilities. Aqua

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ammonia is anhydrous ammonia dilute with water and exerts practically n pressure except at high temperatures For that reason there is little dange connected with its use. The tanks an fittings should have a working pres sure of 30 pounds per square-inch i cases of extremely high temperatures Aqua ammonia should be completel covered to prevent losses. It is desira ble to make application from 4 to inches deep. Pumps have been used t meter aqua ammonia very satisfactory

There are two definite disadvantage to aqua ammonia. They are: Th additional operation necessary to mak the dilution, thereby adding to costs and the greater bulk to be handled.

Summary

(1) The effectiveness of anhydrou ammonia as a source of nitrogen fo cotton, corn, and oats has been demon strated on farms in Mississippi.

(2) Field equipment for applying am monia has been developed, but man improvements are needed.

(3) Anhydrous ammonia should b applied at a 6-inch depth if possibl and completely covered to minimiz loss by vaporization.

(4) Since ammonia exerts high pres sures, care must be exercised in hand ling it.

(5) At 1947 prices, a pound of n trogen from anhydrous ammonia is to 9 cents cheaper than nitrogen fro various solid fertilizers.

[1]Much of this discussion is based upo information published in Miss. Agr. Exp Sta. Bul. No. 448, "Ammonia as a Sourc of Nitrogen," by W. B. Andrews, F. E. E wards, and J. G. Hammons, Mississip Agricultural Experiment Station, Stat College, Mississippi.

COUNTY AGENT

(Continued from Page 149)

we subtract that from the gross retur of $37.35 it leaves a net profit $28.10 per acre. Mr. Gonsoulin w very happy that he did something abou the weather and cashed in.

Mr. Gonsoulin is a rice grower a well as a sugarcane planter, so he w already equipped to irrigate. That why the cost of the irrigation was onl $2.50 per acre.

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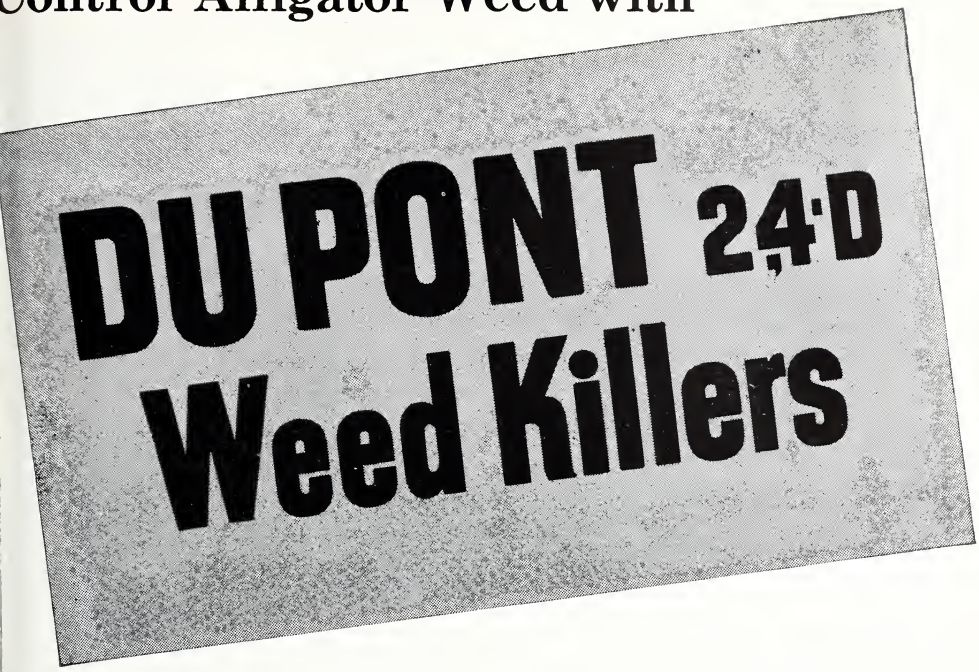

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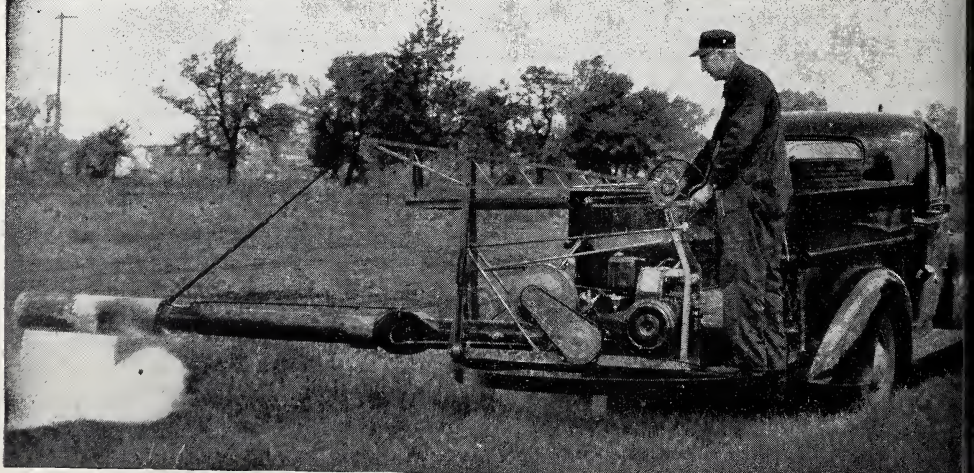

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THE SUGAR BULLETIN

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26 NEW ORLEANS, LA., MARCH 1, 1948 No. 11

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THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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IN WASHINGTON WITH C. J. BOURG

Section 201 of the Sugar Act of 1948 provides in the final sentence the following description of one of the factors to be taken into consideration by the Secretary when making the annual consumption estimate:

> " * * * and, in order that such determinations shall be made so as to protect the welfare of consumers and of those engaged in the domestic sugar industry by providing such supply of sugar as will be consumed at prices which will not be excessive to consumers and which will fairly and equitably maintain and protect the welfare of the domestic sugar industry, the Secretary, in making any such determination, in addition to the consumption, inventory, population, and demand factors above specified and the level and trend of consumer purchasing power, shall take into consideration the relationship between the prices at wholesale for refined sugar that would result from such determination and the general cost of living in the U. S. as compared with the relationship between prices at wholesale for refined sugar and the general cost of living in the U. S. obtained during 1947 prior to the termination of price control of sugar as indicated by the Consumer's Price Index as published by the Bureau of Labor Statistics of the Department of Labor."

Price control on sugar was terminated October 31, 1947, and the relationship which existed during the first ten months of 1947 was as follows:

	Cost of Living Index	Wholesale Price Refined Cane Sugar at N. Y., including tax Before 2% Discou
January 1947	153.0	8.10
February	153.1	8.20
March	156.5	8.20
April	156.7	8.25
May	156.8	8.25
June	158.7	8.25
July	160.2	8.25
August	162.8	8.38
September	164.2	8.40
October	166.7	8.48
10-Month Average	158.87	8.268

A factor of .05204 results when d viding the 8,268 average price by tl 158.87 index. Thus, the cost of livir index for any month subsequent October 1947, when multiplied by tl .05204 factor, gives the wholesale pri of sugar, which should result from direct application of the factor in Se tion 201 as above quoted. In the a sence of an announced price objecti by the Secretary, the average price f the year (calendar year or crop yea can be reasonably expected to be tl Secretary's objective for the domest sugar industry in carrying out this pr vision of law.

	Cost of Living Index	Wholesale Pric Refined Cane Sugar at N. Y., including tax Before 2% Discou	
		Actual	Should
November 1947	166.6	8.40	8.67
December 1947	169.0	8.40	8.79
January 1948	169.0	8.22	8.79

The current wholesale refined pri at N. Y. is 7.75.

YOUR COUNTY AGENT REPORTS

INCREASING CANE YIELDS

by

A. C. Moreau, County Agent, Lafourche Parish

AT a recent meeting of the Sugar Cane League Contact Committee ieeting a very important discussion ɔncerning the production of sugar cane ɔok place. It was brought out that the eneral trend of production per acre has een slightly downwards in the past w years.

Some of the reasons advanced were: ck of labor, weeds, keeping stubble, ck of equipment, lack of fertilizer, rmers moving on and off of farms, dverse weather conditions, and lack of nowledge of ones farm and perform-nce of individual acres and their treat-ient. One of the most important fac-ɔrs which was not mentioned was the rmer himself. We have good farming nd poor farming in many cases due to ie farmer himself. We all know how iings should be done, but do we do iem?

A survey made in Lafourche by con-icting the 30 best sugar cane growers rought out these facts: high production ras being maintained even through the ar period and the last few years on iese farms. What were they doing to iaintain and even increase yields over ɔrmer years?

I will mention some. These growers ere following the best recommended ractices in thorough soil preparation, se of varieties to fit each particular ɔil type on the farm, maintained drain-ge, planted and turned under summer nd winter legumes, used more fertilizer er acre than the average and generally kept a closer supervision of the farm activities themselves.

We had one large farm, Golden Ranch Plantation at Gheens under the managership of W. S. Martin, that had an average production from 1942 to 1944 of 12.5 tons per acre on an acreage of over 100 acres.

By improving drainage, making better use of varieties, and better fertilization practices this farm has increased its acreage to 234 acres and has produced in 1946 over 22 tons per acre, 23.6 tons in 1946 and Mr. Martin tells me about 22 tons per acre in 1947. A number of other farmers have increased their yields as well.

Let's take stock of ourselves and see if we are doing all we can on our farms. If we will stay in the production of cane, the best practices will have to be followed.

Our lands, when properly treated can produce. On a small acreage farmed by Mr. Thomas Scott of Raceland the yields of C.P. 34-120 for the last four years have been as follows: Plant cane, 55.4 tons per acre; 1st year stubble, 59.6 tons per acre; 2nd year stubble, 46 tons; and this past year on 3rd year stubble 48 tons per acre. This is on land that prior to Mr. Scott's taking it over was over run with Bermuda grass and producing about 20 tons per acre. Mr. Scott's farm produced an average of about 31 tons per acre for the past 3 years on about 50 acres of cane. We must do our best for our soil for it to do its best for us.

FINDINGS AND DESIGNATIONS AS TO FAIR AND REASONABLE PRICES FOR 1947 CROP OF LOUISIANA SUGARCANE

The following release of the Production & Marketing Administration sets forth the reasons why the Sugar Branch did not recognize the sale of Louisiana raws on January 7th at 5.67 cents per pound.

TITLE 7—AGRICULTURE
CHAPTER VIII
PRODUCTION AND MARKETING ADMINISTRATION
(Sugar Branch)
SUGAR DETERMINATIONS

Pursuant to the authority contained in the Determination of Fair and Reasonable Prices for the 1947 Crop of Louisiana Sugarcane, it is hereby found that, because of inadequate volume of sales and quantities of sugar sold, the weekly average prices for 96° raw sugar quoted by the Louisiana Sugar and Rice Exchange and the Cane Products Trade Association Exchange for the weeks ending January 8, January 15, January 22, and January 29, 1948, do not reflect the true market value of such sugar for such periods. Further, it is hereby found that the prices established under the pricing formula of the contracts between Commodity Credit Corporation and continental refiners of cane sugar reflect the true market value of sugar for such periods. Therefore, the weekly average price reported under such contracts, and the seasonal average price as based on such weekly average prices, are hereby designated to be effective under such determination as follows:

(a) for the week ending January 8, 1948—6.32 cents per pound
(b) for the week ending January 15, 1948—5.79 cents per pound
(c) for the week ending January 22, 1948—5.62 cents per pound
(d) for the week ending January 29, 1948—5.62 cents per pound and
(e) Seasonal average price—6.206 cents per pound

Statement of Bases and Considerations

Paragraph (a) of the Determination of Fair and Reasonable Prices for 1947 Crop of Louisiana Sugarcane, issued October 24, 1947, provides that the average price per pound of 96° raw sugar, duty paid basis, shall be determined in accordance with whichever of the following options is agreed upon: (1) the average of the weekly quotations of 96° raw sugar, duty paid basis on the Louisiana Sugar and Rice Exchange and the Cane Products Trade Association Exchange for the week in which such sugarcane is delivered; or (2) the simple average of the weekly quotations of 96° raw sugar, duty paid basis, on such exchanges for the weeks from Friday, October 3, 1947 to January 30, 1948, "except that if the Director of the Sugar Branch finds for any week or weeks such weekly averages do not reflect the true market value of sugar, because of inadequate volume or other factors, the Director may designate the weekly and seasonal prices to be effective under this determination...."

Quotations of the Louisiana Sugar and Rice Exchange and the Cane Products Trade Association Exchange for all weeks up to the week ending January 1, 1948, have been 6.32 cents per pound (the raw sugar quoted price of Commodity Credit Corporation). On January 7, 1948, one sale of 3,500 bags of 1947 crop Louisiana raw sugar was made at 5.67 cents per pound. This sale was used by such Exchanges in arriving at an average price of 6.06 cents per pound for the week ending January 8, 1948. Because the rules of these Exchanges provide that the last previous quotable sale will be quoted each subsequent day until a further sale is made, the daily prices since January 7, 1948, have continued to be quoted at 5.67 cents per pound, thus establishing weekly average prices of 5.67 cents per pound for the weeks ending January 15, 22, and 29, 1948. The sale of 3,500 bags of 1947 crop Louisiana raw sugar does not constitute sales of adequate volume on which to base a change in

(Continued on page 172)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The continuing bad weather has re-arded any new growth that the cane rop might have developed since the anuary freezes under more favorable onditions and for that reason it has een difficult for the county agents to ive us much definite information about ıe condition of the crop. We have, owever, received some reports which ill at least give us a start in our at-empt to follow the crop developments ı each issue of *The Sugar Bulletin*. We sked our friends if they thought any amage had been done to the crop by ıe hard freezes and received the fol-owing reports:

Assumption Parish: Moore Valois dvises us that apparently no damage as been done to the cane crop in his istrict by the bad weather and that ıe root systems of both the plant and ubble canes seem to be in good con-itio:. Mr. Valois believes that the old weather will help to reduce the ane borer damage this year. The acre-ge in cane in Assumption Parish is bout 10% more than that of last year.

Vermilion Parish: The cane crop ı Vermilion Parish has not been dam-ged, according to a report from J. D. obert, and the root systems appear to e good. Mr. Sobert also thinks that orer damage will be less this year be-ause of the hard freezes.

Iberia Parish: W. E. Williams re-orts from Iberia Parish that, as far s he can determine at this early date, ıe freeze damage was not severe in ther plant or stubble cane. He, too, elieves that the freezes will be bene-cial in reducing borer damage. The ane acreage in Iberia Parish has been ıcreased from 2 to 5 per cent this ear.

St. Mary Parish: From St. Mary arish, P. J. deGravelles advises that he does not think any damage was done the crop by the freezes but that he is afraid the continued wet weather may be doing some harm. Root systems, he reports, appear to be satisfactory in both the plant and stubble canes at this time. The acreage in cane in St. Mary Parish is about the same as that of last year. As to the cane borer, Mr. deGravelles thinks that the outlook in this respect has been unchanged by the freezing weather.

Ascension Parish: E. S. Landry has advised us that reports from the farmers in his district indicate that the cold weather did not damage the plant cane but may have done some damage to the stubble crops. He says that it is a little too early to make any definite determinations. Mr. Landry, like Mr. deGravelles, is worried about the excessive wet weather and states that unless good drainage is available the stands of cane could be seriously affected.

West Baton Rouge Parish: Neither the plant nor stubble canes in West Baton Rouge Parish have shown any signs of damage from the cold weather, according to a report from A. E. Camus, who also states that the root systems appear to be in satisfactory condition. Mr. Camus believes that the freezing temperatures will help to reduce borer damage this year.

St. James Parish: Joseph Lamandola reports from St. James Parish that the plant cane in his district has not been damaged by the cold weather but that it appears that some stubble varieties, especially Co. 29-120, may have suffered some damage. Mr. Lamandola believes that the borer damage may be reduced this year because of the freezes. He reports that the acreage in cane in St. James Parish is just about the same this year as last year.

JOHNSON GRASS AND CROP ROTATION

By F. Evans Farwell

Chairman—Johnson Grass Control Committee of the Contract Committee of the American Sugar Cane League.

OVER many, many years the custom in Louisiana has been to grow an inter-planted crop of corn and beans on land not in cane. Theoretically, every third year land is taken out of cane and put into a "rest" crop of corn and beans. This procedure is no doubt beneficial to the lands, but the constant and tremendous spread of Johnson grass over recent years has shown that there was something wrong with this system. As can be seen on cultivable land that has been abandoned for a number of years, in a completely wild and uncultivated state Johnson grass cannot compete with native growths in Louisiana. Even with the increased number of tractors available for plowing and cultivation, the Johnson grass has become more and more of a menace each year. Radical steps are necessary to counteract this trend.

Land can be taken-out of cane cultivation and grazed for two or three years with excellent results, but unless a plantation has almost an unlimited supply of land available, this procedure would either drastically cut the annual cane production or would take an extremely long time to eliminate the Johnson grass hazard from the entire plantation.

A means that is faster and which will not result in a radical decrease in the total quantity of cane produced per year is the long sought answer. Let it be stated here that this is not a theoretical paper. It represents studies and results that have been carried out over a number of years, first on a small test plot, then on a hundred acre basis, and finally on a plantation-wide scale.

With a system of fallow plowing effective control of Johnson grass can be accomplished. Land is to be plowed, chopped, and/or harrowed regularly so that the Johnson grass roots expend their stored energy without ever having a chance to renew it by sufficient green growth above ground.

Under South Louisiana climatic conditions, Johnson grass does not start to store starch in its roots or put out either secondary or tertiary roots until after the grass is six or eight inches high. It should be noted here that at about flowering time Johnson Grass puts forth its storage roots for the next year—the tertiaries—and that the longer the plants are allowed to stand after blossoming, the larger and deeper these roots become. Therefore, in fallow plowing, it is best to let the grass make say six inches of growth between each plowing. This of course forces the Johnson grass to use up its reserve supply of energy, eventually resulting in the death of the entire plant. One rule which is a somewhat radical step in Louisiana must first be set up, namely: no corn and beans to be planted on any land infested with Johnson grass.

The system of growing corn and beans together on a row is not truly an economic way of growing corn, and with the decreased number of mules on plantations, a change from the old system should not cause any undue economic hardship. When corn and beans are planted together the beans of course cannot be plowed under until the corn has been picked and in a rainy season this harvesting operation is often delayed. Often by the time the corn is picked the bean leaves are either dried up or have been destroyed by caterpillars or worms. This means that the plant material that is available for plowing under is often of poor quality. It would be more economical where Johnson grass free land is available to plant a smaller acreage of straight corn and give it a proper quantity of fertilizer. Experiments with not thinning such corn have been successful and the yield has been encouraging. The remainder of the land should have straight beans with these being plowed-under while green and in good condition.

While considering fallow plowing

careful attention must be given to the problems arising around the ditch banks where Johnson grass usually goes to seed. These ditch banks can, of course, be mowed until the cane or beans are high. The custom is then to either cut the ditch banks by hand or let the Johnson grass go to seed. It would be better of course to simply plan on not trying to complete the crop on the first one or two rows next to the ditch bank so that where beans are being grown, the mower, plow, or ditch bank burner could operate throughout the main Johnson grass growing season. Where cane is being grown, the row next to the ditch bank could remain unplanted, but a better plan would be to use one of the ditch bank straddling burners. Such a burner makes it possible to prevent the growth and seeding of Johnson grass along the ditch banks of cane land after the cane has been "laid by".

Fallow plowing is in most cases best done with a disc or a flush plow, but the objective can be accomplished by the use of a row plow. Though there will be no corn or bean plants plowed under, the competition for the nutriment of the soil from Johnson grass will be so much less that the cane yields in fallowed lands will increase rather than decrease. After only one season of fallow plowing, Johnson grass seedlings will usually be found the following spring, but these are not as vigorous as is the growth from secondary and tertiary rootstocks. The viability of the seed seems to depend on climatic conditions. Occasionally we have a year like 1943 where the rate of viability is very high, though normally such is not the case. Seedlings can be removed by hoeing. Limited tests on the use of 2, 4-D as a weed seed sterilizing agent on plant cane have, on a preliminary basis, given encouraging results. Vigorous fallow plowing so decreases the total weed population that hand hoeing costs are lowered considerably and the general tilth of the soil is gradually improved. Two years of fallow plowing of course are best, but such a system would be in many cases too costly and would keep land out of cash crops too long. One year of fallow plowing gives effective control; two consecutive years of fallow plowing gives eradication.

An "extra" tractor fits into this system ideally. On some plantations this so-called extra tractor purposely has wheels of a type that keep it from being adaptable for hauling cane. In the fall, this so-called spare tractor should plow out and disc stubble land. Under normal conditions the first cane cut is second year stubble or the poorest first year stubble. These are usually the earliest maturing canes. When these stubbles have been plowed out and the land chopped, melilotus or oats should be planted on the land. Experiments have been conducted with the planting of barley, rye, singletary peas and other such crops. Where the land needs humus, solid melilotus is best. Where land is not in such great needs of humus and a feed crop is badly needed, oats can well be planted. Oats have a smothering effect on the Johnson grass and under normal conditions will keep the worst Johnson grass well under control until the oats are harvested in April or May.

When land has a "smother crop" of melilotus or oats growing on it, no requirements are made upon the cultivating equipment until late in the spring. Land that is in the fallow system but was not planted with such crops should be plowed in January. Having these smother crops take care of the land during late winter and spring means that the agricultural equipment is more available to properly care for the cane lands. As the area in corn is radically decreased or concentrated, its planting can be done at the most opportune time.

Ideally, melilotus, singletary peas, or oats should be left in the fields until the Johnson grass starts showing through, but in the case of oats, these must be cut upon their own maturity. The oats can be cut for hay in the early stage of maturity, or of course can be combined when the seeds have matured. Once the oats have been removed from the land, or the other smother crops been plowed in, fallow plowing should continue until cane planting time. As

(Continued on page 174)

ANNUAL COMMERCIAL PLANT NUTRIENT NEEDS IN LOUISIANA

by

M. B. Sturgis, Head of Agronomy Department, L. S. U.

Of the three most important commercial plant foods, N, P_2O_5 and K_2O, nitrogen is the most scarce and most costly. Louisiana needed 64,800 tons of nitrogen in fertilizers in 1947 and received approximately 23,000 tons. If the crops had received the fertilizers recommended by the Louisiana Agricultural Experiment Station the application of N in 1947 would have been:

To:	Tons
Corn	27,000 nitrogen
Cotton	15,000 nitrogen
Sugar Cane	7,400 nitrogen
Rice	6,000 nitrogen
Oats	1,900 nitrogen
Truck and potatoes	7,500 nitrogen

There were 5800 tons of nitrogen actually applied to sugar cane which was approximately 75 per cent of the amount needed. The other crops received only about 33 per cent of what they needed.

If the needs for nitrogen in Louisiana are met the requirement for phosphate will be 48,000 tons of P_2O_5 and the requirement for potash will be 40,000 tons of K_2O.

The fertilizer requirements for crops in the different soil areas has been fairly well determined and the recommendations of the Louisiana Agricultural Experiment Station and Extension Service are being distributed.

It is well to note that nitrogen is the key element and the increases in the yields of crops in terms of the nitrogen applied are: 1 bushel increase of corn per 2.0 pounds of N.

1 bushel increase of oats per 1.1 pounds of N.

100 pounds increase of seed cotton per 8.0 pounds of N.

1 barrel increase of rough rice per 3.5 pounds of N.

1 ton increase of sugar cane per 6.0 pounds of N.

The adaptation of different sources of nitrogen to the different crops in the different soil areas has received much attention, but since 1941 the scarcity of nitrogen has outweighed any peculiar adaptations. The alluvial soils of Louisiana are neutral to alkaline and are generally well adapted to ammonium forms of nitrogen. The alluvial soils are not commonly deficient in phosphorus or potassium; so only nitrogen carriers are commonly used. Most of the alluvial soils are planted to cotton, corn and sugar cane. All of these crops can readily use either the nitrate or ammonium forms of nitrogen. The questions today about the use of ammonia on cotton, corn and sugar cane therefore have to do largely with machinery, the method and time of application.

—o—

THE MARKETS

Despite the facts that Mr. James H. Marshall, Director of the Sugar Branch of the Production and Marketing Administration, has arranged the purchase of a million tons of Cuban raw sugar from the 1948 production for distribution outside the quota wall, and that the U. S. Government has also bought about 35,000 tons of raw sugar from Peru for either the U. S. Army or European relief purposes, there has been no evidence of continued strength in the sugar markets during the fifteen day period since our last report.

Apparently the trade is still far from convinced that the consumption in the United States during 1948 will even come close to equaling the estimate of 7,800,000 short tons set by the Secretary of Agriculture early in January and the depression which hit the market when the estimate was announced is continuing at this writing.

Closing quotations in the Number 5 future market contract today show May at 5.05, which is 3 points higher than the close in February 11th. July is 5.03, up two points, September is 5.04, up 3 points, and December is 4.94, up two points since February 11th. March 1949 is 4.57 which is just 1 point up, and May 1949 is 4.68, which is 3 points up since the close on February 11th.

These quotations do not include the 50¢ duty.

The sales of actual sugars reported during the period consisted of 4,500 tons of Cubas on February 13th, for the second half of February shipment, at 5.52 to Sucrest; a cargo of Cubas also on February 13th, for early March shipment at 5.50 to American; sales of Cubas and Puerto Ricos on February 17th, about which particulars are lacking, for prompt shipment at 5.55 to refiners; and 2,000 tons of Philippine Jaws, on February 20th, for June-July shipment, at 5.60 to Sucrest.

The spot price of raw sugar today is 5.55 which is ten points higher than the spot price was fifteen days ago, but which is still 77 points less than the 6.32 price prevailing when the Secretary of Agriculture announced his consumption estimate on January 5th.

The demand for refined sugar has continued light throughout the period and the Ticker reports today that demand continues slow with buyers taking only immediate needs despite the coming Easter holiday. On February 26th the Sucrest Corporation reduced its price on prompt shipment refined sugar in 100 pounds bags to 7.70 cents per pound, but so far the other refiners have managed to hold their lists at 7.75 cents per pound. Willett & Gray lists beet sugar in the Eastern Territory at 7.65 cents per pound, and beet sugar in the Western Territory at 7.55 cents per pound.

FLASH

(Washington, February 26th, 4:27 p.m.) U. S. D. A. just announced consumption estimate reduction to 7,500,000 tons.

(C. J. Bourg)

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FINDINGS AND DESIGNATIONS

(Continued from page 166)

the price of raw sugar and, consequently, does not reflect the true market value of sugar.

The weekly and seasonal average prices of raw sugar designated herein result from the pricing formula prescribed in the contracts between Commodity Credit Corporation and continental refiners of cane sugar. Such formula is so designed that the daily price resulting therefrom reflects the current value of sales of raw sugar of 5,000 short tons or more. Prior to January 12, 1948, no such sales had been reported which would change Commodity Credit Corporation's prices. Such sales on and after January 12, 1948, have been used in arriving at the designated weekly and seasonal average prices. Such prices are deemed to reflect the true market value of raw sugar available for melt during such periods.

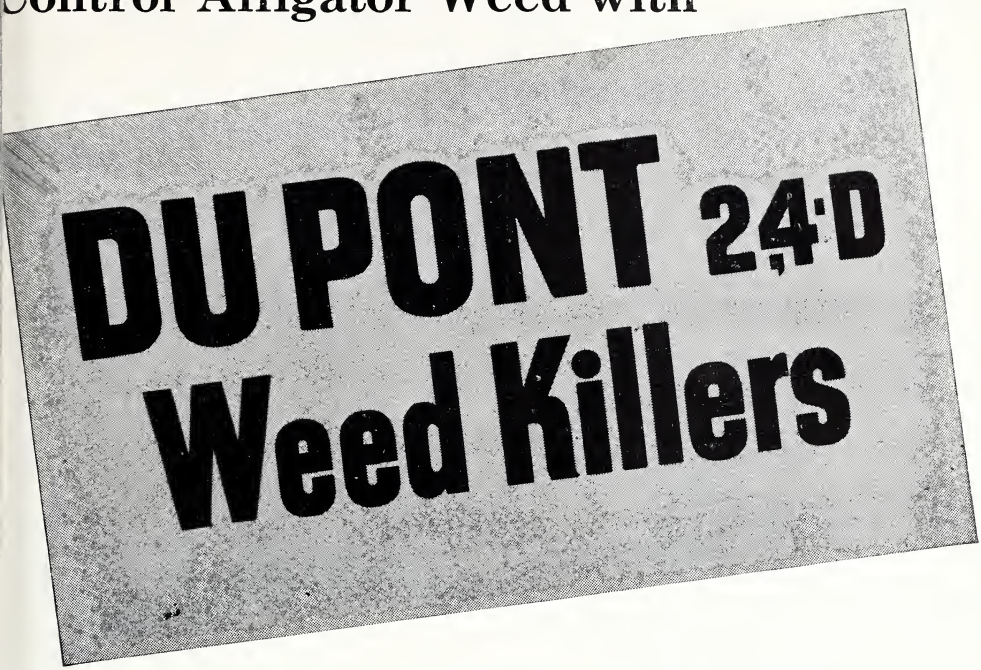
Issued this 9th day of February, 1948.

James H. Marshall, *Director*

Final Production Figures on 1947 Crop

Tons of cane ground for Sugar (gross weight)	4,045,96
Tons of cane ground for Sugar (net weight)	3,917,10
Tons of cane ground for Syrup	131,08
Sugar Produced	
Tons Refined	43,73
Tons Plantation Granulated	16,64
Tons Crystals and Washed Raws	1,37
Tons Turbinados	16,24
Tons Raws	211,30
Tons Sugar Estimated in Magma	2
Total Tons of Sugar Produced and Estimated (Raw Value)	296,93
Molasses and Syrup	
Gallons First Molasses	2,179,25
Gallons Second Molasses	2,966,51
Gallons Syrup	3,118,15
Gallons Blackstrap Produced	21,607,80
Gallons Blackstrap Estimated in Magma	5,67
Total Gallons Blackstrap Produced and Estimated	21,676,47

Control Alligator Weed with



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JOHNSON GRASS

(Continued from page 169)

there would be no corn in the land, can planting could be accomplished in thi land at the most advantageous time Some cane is normally planted in suc land in August as a hedge against ba weather in September. Melilotus i again sowed on the land that has bee planted in cane.

All of this system is set up to contro or eliminate the presence of Johnso grass. Once this has been accomplishe and on plantations where Johnson gras is not a serious problem, a more or les ideal system of rotation can then b put into effect, namely, the plowing ou of stubble in the fall and the sowing c melilotus; the plowing under of thi melilotus in the late spring and th drilling of beans; the beans bein plowed under when in full green growt early enough so that the land can b properly prepared for August or Sep tember planting of sugarcane. Th plant cane crop in turn having melilotu planted on top of it for plowing unde the following spring. Under such a sy tem the soil would receive an amp supply of humus, bacterial action woul be great, and fertility would be greatl improved. No commercial fertiliz would be required on such land for th plant cane, and the requirements coul no doubt be held to a minimum f first year stubble.

As a resume', for effective control c land that is badly infested with Joh son grass:

Plow out all possible stubble in th fall, plant melilotus or oats.

If some corn must be grown, plant small acreage of straight corn on th least badly Johnson grass infested lan fertilizing just before or at the time planting, and give a side dressing at later date. Corn should not be thinne

Fight Johnson grass on ditch ban with every means possible.

Plow-in melilotus or oat straw as th case may be.

Continue fallow plowing or harrowi land until cane is planted.

Put melilotus on this plant cane, e cept where experiments are to be ca ried out in seed sterilization with 2, 4-

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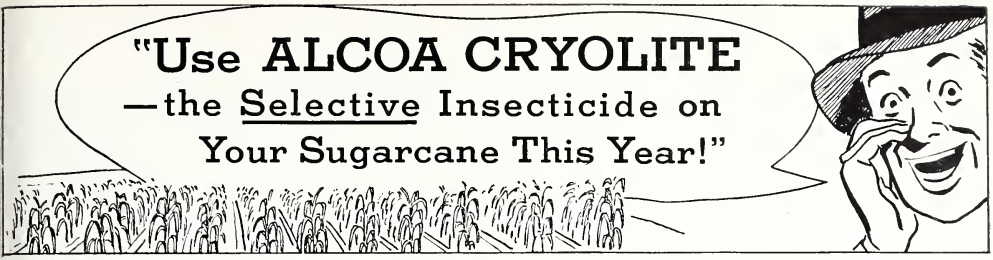

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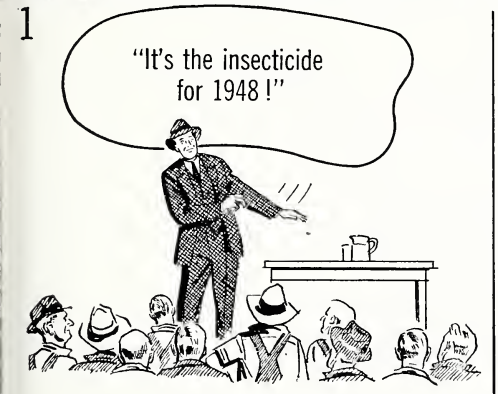

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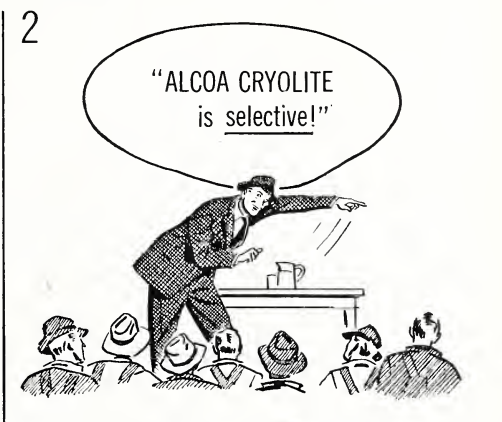

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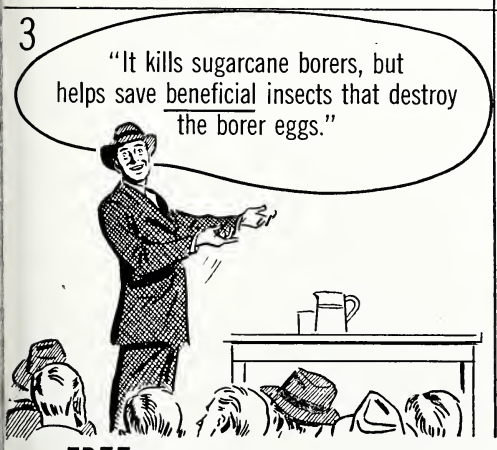

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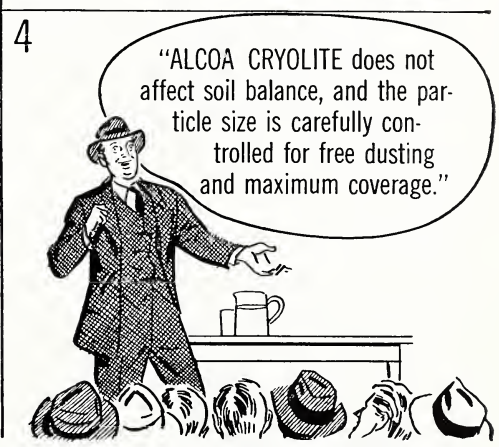
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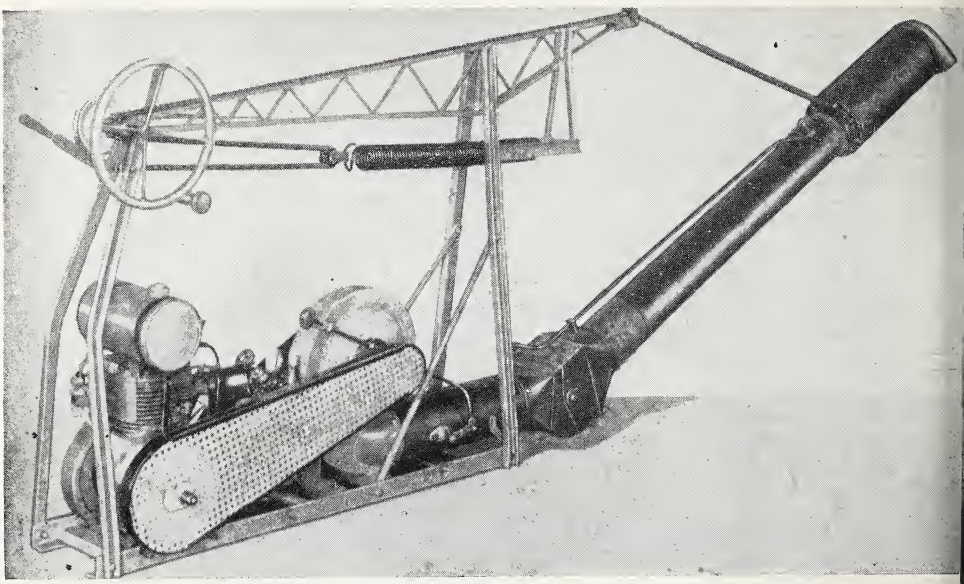

Model "A" Woolery Junior Weed Burner Unit

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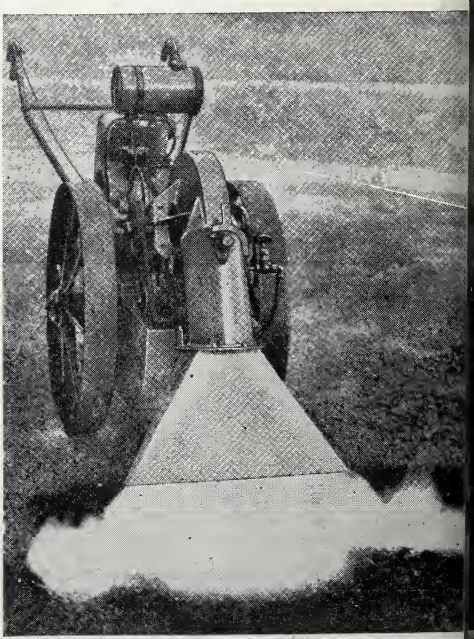
Its use is not restricted to weed burning alone, as it provides an efficient means for dusting cotton crops, spraying fruit orchards, potatoes or any other crops that come within this category.



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THE SUGAR BULLETIN

as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., MARCH 15, 1948 No. 12

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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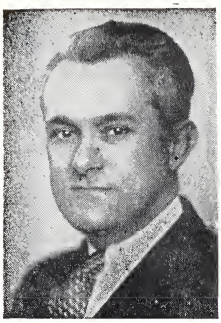
IN WASHINGTON WITH C. J. BOURG



An official explanation of the reasons r the 1948 estimate of 7,800,000 tons id for the later reduction of the con- mption estimate to 7,500,000 tons, is ntained in the Determination signed y the Secretary of Agriculture and ublished in the Federal Register of Iarch 3, 1948, on Page 1145:

"821.1 *Determination of the amount of sugar needed to meet the requirements of consumers in the continental U. S. for the calendar year* 1948. The amount of sugar needed to meet the requirements of consumers in the continental United States for the calendar year 1948 is hereby determined to be 7,500,000 short tons, raw value.

"*Statement of bases and considerations.* On January 2, 1948, it was announced that the amount of sugar needed to meet the requirements of consumers in the continental United States in the calendar year 1948 was 7,800,000 short tons, raw value. Since that time, the actual distribution of sugar during January and the first three weeks of February has been very low compared with the distribution which could be expected during January and February by applying a pre-war percentage of annual distribution in the same months to the estimated annual consumption of 7,800,000 short tons. Examining each of the bases and considerations set forth in section 201 of the act and the analyses made at the time of the original estimate of sugar consumption requirements on January 2, there appears to be no basis for any change at this time in the basis on which the determination was made, namely, the quantity of direct consumption sugar distributed during the 12 months ended October 31, 1947.

"However, while there may have been changes since December 31, 1947, in consumption because of changes in demand conditions, including the level and trend of purchasing power, the extent of such changes is not now readily determinable, particularly with respect to the effect of such changes on the total demand for sugar the entire calendar year. Therefore, no change is warranted at this time in the net additional allowance made on January 2 for changes in population and demand conditions.

"While the Department has no current data which would warrant changes in its estimates of visible and invisible stocks of sugar on December 31 in the hands of primary distributors, manufacturers, wholesalers and retailers, it is now apparent from recent distribution that exceptionally large stocks were held by household consumers on December 31, 1947. In view of the fact that total distribution during the months of January and February will be approximately 300,000 tons less than the quantity which would have normally been distributed during these months under an estimate of consumption requirements in the amount of 7,800,000 short tons, raw value, it is necessary to allow a net total of 250,000 short tons, raw value, for inventory surplus instead of the net allowance of 50,000 short tons, raw value, for in-

(Continued on Page 190)

THE COST OF TRASH TO THE SUGAR FACTORY

By W. S. Daubert, Factory Superintendent, Cinclare Central Factory

THE trash situation is very much like the weather for as Mark Twain once said, "Everyone talks a great deal about it, but no one does anything about it." Nevertheless, in the writer's opinion it is one of the most serious problems that has faced factory owners and operators for many years. One of the most discouraging things about it is that there seems no possibility of it becoming any better and for several years past it has become worse each year.

At one time a few years ago the larger growers, whose places were mechanized sent in trashy cane, but the smaller shippers who cut and loaded cane by hand usually delivered fairly clean cane. Now, even the smaller shippers are sending in trashy cane.

The money losses to the factory caused by trash are much greater than one would believe possible without careful thought. It is true that the weight of the trash, less 3 percent, can be deducted and at first thought it would appear that this deduction of the weight of trash would compensate for the loss. This is only the beginning. It is merely deducting from the material delivered a portion of a foreign material that is not cane and under no conceivable idea has any place in a load of cane except that it costs the grower of cane money to remove it and is much easier to send to the factory with the cane than it is to leave it in the field where it belongs.

We can consider the losses caused by the trash under several points.

1. The cost and effort of taking trash samples and the inability of obtaining the total amount of trash by present methods of sampling.
2. Slower grinding rates on the mill due to milling the greatly increased weight of fiber.
3. Actual loss of sugar caused by trash absorbing juice and carrying it away in the bagasse; loss of sugar caused by the inabili to lower the sucrose in bagasse trashy cane to that of bagas from clean cane; loss in sucrose bagasse due to the larger amou of bagasse per ton due to the i ability to lower moisture in ba asse from trashy cane.
4. Loss in grinding rates due to t inability of the clarifiers to hand the juice from trashy cane.
5. Loss of sucrose due to the great increased amount of mud ma and loss of sucrose due to t necessity of ditching mud liquidations and during operatio when conditions are extreme.
6. Loss of sucrose in final molass due to the inability to reduce t purity of final molasses.
7. Freight paid on trash.
8. Actual cost of grinding trash.
9. Greatly increased wear and te on machinery.

In considering these losses, we c assume a hypothetical factory grindi as a normal state 100,000 to 125,0 tons of cane; it had a peak capaci of 2000 tons a day and including lo time its actual daily grinding avera was 1700 tons per day and it grou 100,000 tons of cane in 60 days und average weather conditions. It turn out a bagasse of 46 moisture and 2. sucrose and the final molasses had a average purity. It employs 150 m during grinding and has a base rate 50 cents per hour and an average ra of 57½ cents per hour. Average freig on cane is 55 cents per ton. It show an average undetermined loss on ca of about .18. Before the days of tra this was a well operated smooth working factory.

Let us look at the same factory tod and assume that no major changes increase capacity have been made.

(Continued on Page 187)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The unprecedented spell of wet weather that has prevailed in the Louisiana sugar district, with but slight interruption, since before Christmas is causing grave concern among the county agents. It will be recalled that the 1947 crop got off to a very poor start because of the excessively wet spring, and 1948 seems to be following the same pattern.

As we go to press the weather man is predicting another hard freeze for the sugar belt.

St. Charles Parish. A. J. Melancon, Jr., advised us on March 8th that practically all the stubble cane in St. Charles Parish had been shaved but that the heavy rains had prevented any other cultivation operations. He says the reports from the farmers in his district indicate that nitrogen fertilizer will be short this year. Winter cover crops were showing very slow progress up to two or three weeks ago but have grown rapidly since that time. His farmers are anxious to turn this crop under. Mr. Melancon reports that the plant canes in his district looked good on March 8th but that not too good a report could be made concerning the stubble crop.

St. Mary Parish. From St. Mary Parish, P. J. deGravelles reports that the continuous wet weather since January has made it impossible for the farmers in his district to do any field work. Vetch and winter grass have made tremendous growth and it is feared that the inability to remove this will result in damage to the plant cane. The continuous wet weather is effecting the stands of stubble cane.

Terrebonne Parish. Reporting from Terrebonne Parish on March 8th, Richard Sonnier states that the farmers in his district report both plant and stubble canes in good shape. However, he says, the late flooding rain (March 6th) may have changed the situation in a few cases. Very little work has been done in the fields. Winter legumes are growing very fast and great benefit should be received. The acreage in cane in Terrebonne Parish this year is about the same as that used in 1947.

West Baton Rouge Parish. Reporting on March 10th from West Baton Rouge Parish, A. E. Camus advises us that the sugar cane crop in his district is apparently in good shape. The plant cane seems to be sound and ready to come up, but hardly any of the crop has had the dirt taken off because of the excessive rains. The stubble that has been shaved seems to be coming up in good condition. The field work, Mr. Camus reports, has been retarded with no corn planted and very little work done on the cane crop.

Lafourche Parish. Reporting on March 4th from Lafourche Parish, A. C. Moreau advises us that the cane in some low spots appears to be rotted, mainly because of the excessive water due to the rains, but that some of the plant cane that the farmers had given up for lost was coming out to a stand with but few rotted buds. The rains, Mr. Moreau writes, have hampered all operations even to corn and potato planting. Farmers are being urged by Mr. Moreau to open all drains and outlets to permit water to run off as quickly as possible.

Iberia Parish. In another report dated March 4th, W. E. Williams writes from Iberia Parish that both the plant and stubble canes seem to have come through the winter freezes in fair condition but that the cold, damp weather

(Continued on Page 187)

THE MARKETS

(*March 10th,* 1948)

On February 26th the United States Secretary of Agriculture reduced the sugar consumption requirements of our country for this year from 7,800,000 short tons to 7,500,000 short tons, but the announcement had little effect on the market. Futures rallied weakly for a few days but have since dropped down to new lows for the year. Apparently the reduction is too little and it may even be too late.

The following report appearing in the March 4th issue of the *Weekly Statistical Sugar Trade Journal* of Willett & Gray paints a not too optimistic picture of the world sugar situation, as far as price is concerned, and we pass this expert observation on to our readers. "World sugar production", the reports states, "is slowly but surely climbing back to pre-war figures and soon will exceed them. The following straws show the way the wind is blowing. In South Africa the existing quota policy has been suspended and the Government has approved production of cane sufficient to provide 725,000 short tons of sugar. Previous high was in 1944-45 when 614,815 tons were produced, with adverse weather reducing the output in succeeding years. The increase to 725,000 tons is the minimum sought by 1950-51. Further increase is contemplated in the period 1951-55 and various areas which might provide additional production in the Country are being studied. Australia expects to again be producing 750,000 long tons of sugar annually by 1950-51 if not before. India has abandoned control and 45 new factories are to be erected with import licenses already issued for the necessary machinery for 13 of them. Capacity of existing factories is being enlarged in instances with Government permission. There is talk that Java will again be producing 500,000 tons a year by 1950. A further sizable increase in production is spoken of in Formosa in 1948-49. The Philippines, as we have previously mentioned, expect to produce 774,000 long tons next year. In Mexico production in 1947-48 is to be held to 600,000 tons but under the factory modernization program the country could probably produce 750,000 tons if necessary.

"In Greece there is renewed talk of building 7 to 10 beet sugar factories that would produce sufficient sugar for the country's needs. Switzerland is having a referendum this month on the advisability of putting up a second factory. In Roumania the Government has embarked on a program to encourage a larger beet acreage. Canadian beet processors have the capacity for increasing home production but lack of Government cooperation at the moment to make it possible.

"With the world so short of dollars European countries particularly may be expected to encourage expansion at home more rapidly than they might otherwise and for the same reason the British Government might even find it necessary to offer such inducements as would make it worth while for the British West Indies and other Colonies to expand production on a long term basis."

Closing quotations in the #5 contract today show May at 4.93, which is down 12 points since February 25th. July is 4.93, down 10 points; September is 4.93, down 11 points, and December is 4.84, which is down 10 points since our last report. March and May are both 4.57, down 9 and 11 points respectively.

The sales of actual sugars recorded during the period consisted of 4,500 tons of Cubas, on February 26th, for prompt shipment at 5.45 to American; 30,000 bags of Puerto Ricos, on February 27th, for prompt shipment at 5.50 to American; a Cuba cargo with outport options for the 2nd half of March-1st half of April shipment at 5.55, 3,000

(Continued on Page 186)

ON THE LEAGUE'S WASHINGTON AGENDA

by C. J. Bourg

The American Sugar Cane League, acting through its Washington Representative, performs many services to its members about which there is often no public notice. Except in matters of major importance such as the Sugar Act, our members who may be neither officials nor belong to the Executive Committee, probably do not have detailed information as to the variety or the extent of the activities of the League in Washington.

1. The League is currently cooperating with the sugar and vegetable growers of Florida, as well as employers of foreign labor in states along the Atlantic Seaboard, in connection with continuing the importation of agricultural workers from the West Indies. During the war this program was carried out with federal aid. Now such importations can be made but at the full expense of the grower employers. Louisiana sugar growers need these foreign workers mostly for the harvesting seasons and should the shortage of farm workers continue, it may be necessary to seek laborers in Jamaica and Bermuda who have made good cane cutters. Naturally there are negotiations which must be conducted between our Government and the foreign country from which these workers are recruited, in addition to the many conferences to work out the type of contract which is to be signed by the employer and each worker. Recently similar negotiations were completed in connection with Mexican workers to be employed in the beet sugar fields.

2. The law requires that all foreigners are subject to the withholding tax but during the war this provision was not applicable to foreign agricultural workers. The Mexican workers have been recently exempted because they are aliens temporarily in this country from a "contiguous" or bordering neighbor country. An attempt is now being made to have a similar exemption provided for seasonal workers from the West Indies, although they are islands and cannot be said to come from a "contiguous" country. The withholding tax amounts to 30 per cent of the wages, and if this law would be applicable to foreign agricultural workers, it would mean that none of them would come to the United States.

3. There is a bill before Congress to authorize the sale of the Federal Barge Lines. This is important to the sugar industry as well as other industries in Louisiana from the standpoint of maintaining the lower freight rate structure by the continuation of the barge rates for shipments into the markets of the north. This is another cooperative effort in which we have joined with other industries.

4. Amendments have been offered to the Fair Labor Standards Act which would provide a higher minimum wage rate in the McCormack Bill—75c an hour instead of the present 40c. This bill also would eliminate the exemptions in favor of seasonal industries and agricultural processing industries with respect to the maximum hours or overtime provisions. This matter is the subject of hearings at which proper representation is being made on behalf of the sugar industry.

5. There are several movements to reorganize the Department of Agriculture. One particular bill attempts to transfer the Soil Conservation Service to the Extension Service. Indications at the hearings, so far, are that Congress is inclined to restrict the activities of the Extension Service to purely agricultural education programs. Hearings are scheduled to be held later in this Session of Congress with regard to the

long-range farm program in which some proposals would make a very thorough reorganization of the action programs in the Department of Agriculture and particularly with regard to state or parish offices and farmer committees. One objective is definitely to reduce farmer committees to a minimum (preferably just one) and to extend the authority of the parish committee to cover all agricultural programs. The League is obviously interested and is participating actively.

Robert J. Gauthier Heads Western Division

Robert J. Gauthier, General Manager of the St. John Factory of St. Martinville, La., was elected the new President of Louisiana Sugar Producers' Club (Western Division) at a meeting held in New Iberia on March 5th. Mr. Gauthier succeeds J. P. Duhe, of Jeanerette who has headed the Club for the past two years. M. V. Yarbrough, of Youngsville was re-elected Vice-President of the Club and Marcel J. Voorhies of New Orleans was re-elected Secretary-Treasurer. Thirty-one people attended the meeting which was held in Deare's Restaurant at New Iberia on the day of the big rain. The members decided to rotate the offices of President and Vice-President, electing new personnel each year.

The Martin Ditchbank Plow

Mr. Paul Pavy, Jr.

During the past few years there has come into rather common use on the larger plantations an implement known as the *Martin Ditch-Bank Plow.*

This plow is of simple, yet rugged, construction and is therefore very practical and economical. It consists of a frame made of two 2½" pipes, 14 feet long and welded parallel to each other 16 inches apart. At right angles to these pipes are attached two arms of angle iron which connect to the draw bar of the tractor. Over these 14 fee x 2½ inch pipes are slipped two 3-inc pipes 14 inches long; a frame is mad attaching these two pipes together an upon this frame is mounted one sectio of a conventional gang chopper, thi section usually consists of four cutawa discs. A seat is attached to one end o the frame and by a system of cables enable the operator to adjust the dis section along the 14 foot lengths of pip

It can be seen from this that th frame will extend approximately 8 fee out on one side of the tractor that i 6 feet wide. By straddling the ditc bank row with the tractor, these disc can in some cases actually reach ove the edge of the ditch and by repeate trips around the cut also chop all th intervening area. The speed of th tractor and the tearing action of th discs quickly level high ditch banks an consequently make it a much easier tas to combat noxious weeds and grasse commonly found there.

With the rapid reduction of our mule and man power on cane farms an more and more emphasis upon tracto farming, this plow comes as a welcom development and a replacement of mule and teamsters which, no longer practi cable or economical, are fast becomin a vestige of a bygone era.

From the Quarterly Bulletin of Th American Society of Sugar Cane Tech nologists.

REVISION OF 1948 SUGAR QUOTAS

On March 2nd the U. S. Departmen of Agriculture announced the revisio of sugar quotas made necessary by th recent reduction in the estimate of 194 continental sugar requirements fro 7,800,000 to 7,500,00 short tons, ra value.

The principal changes resulting fro the reduction in consumption require ments are to lower the quota of suga which Cuba may market in the Unite States from a total of 3,239,429 t 2,943,509 short tons, raw value, and t

reduce the quantity which may be marketed by foreign countries, other than Cuba and the Republic of the Philippines, from 69,280 to 65,200 short tons, raw value.

The revised 1948 quotas in short tons, raw value, are shown in the following table:

Production Area	Basic Quota	Proration of Deficit in Quota for Hawaii	Proration of Deficit in Quota for Philippines	Adjusted Quota
Domestic Beet Sugar	1,800,000	47,738	-----	1,847,738
Mainland Cane Sugar	500,000	13,260	-----	513,260
Hawaii[1]	1,052,000	(152,000)[6]	-----	900,000
Puerto Rico[2]	910,000	24,134	-----	934,134
Virgin Islands	6,000	159	-----	6,159
Philippines[3]	982,000	-----	(692,000)[6]	290,000
Cuba[4]	2,219,400	66,709	657,400	2,943,509
Foreign countries[5]				
Belgium	180.6	-----	198.5	379.1
Canada	346.2	-----	380.5	726.7
China & Hongkong	176.8	-----	194.3	371.1
Czechoslovakia	161.6	-----	177.6	339.2
Dominican Republic	4,092.3	-----	4,496.8	8,589.1
Dutch East Indies	129.7	-----	142.5	272.2
Guatemala	205.5	-----	225.8	431.3
Haiti, Republic of	565.6	-----	621.5	1,187.1
Honduras	2,106.5	-----	2,314.7	4,421.2
Mexico	3,701.6	-----	4,067.5	7,769.1
Netherlands	133.7	-----	146.9	280.6
Nicaragua	6,272.4	-----	6,892.4	13,164.8
Peru	6,820.5	-----	7,494.7	14,315.2
Salvador	5,037.4	-----	5,535.3	10,572.7
United Kingdom	215.2	-----	236.5	451.7
Venezuela	178.0	-----	195.6	373.6
Other Countries	26.4	-----	28.9	55.3
	30,350.0	-----	33,350.0	63,700.0
Unallotted	250.0	-----	1,250.0	1,500.0
Subtotal	30,600.0	-----	34,600.0	65,200.0
Total	7,500,000			7,500,000

[1] Of Hawaii's adjusted quota, 29,616 tons may be direct-consumption sugar.

[2] Of Puerto Rico's adjusted quota, 126,033 tons may be direct-consumption sugar.

[3] Of the Philippine's adjusted quota, 59,920 tons may be direct-consumption sugar.

[4] Of Cuba's total adjusted quota, 375,000 tons may be direct-consumption sugar.

[5] Original quotas for "All other foreign countries" may be filled with direct-consumption or with raw sugars. Prorations of the Philippine deficit to "all other foreign countries" may be filled only with raw sugar.

[6] Deduct this amount from original quota.

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Dr. Efferson on Leave of Absence

Dr. Norman J. Efferson, Agricultural Economist with the Louisiana State University Agricultural Experiment Station, who has been very active during recent years in preparing cost studies for the Louisiana sugar industry, has been granted a six months' leave from the University to make a study of the rice industry in the far east for the U. S. Department of Agriculture.

DR. EFFERSON

Dr. Efferson left Washington by plane during the first week in March for Manila. He plans to stay approximately three weeks in the Philippines proceeding from there to Japan, China, Burma, Siam, India, the Dutch East Indies, and Egypt. He will be gone for about five months.

THE MARKETS

(Continued from Page 182)

tons of Philippines for March-April and 2,000 tons for June-July shipment at 5.60, all three reported on February 27th, and all three to the American; another Cuba cargo with outport options, on March 1st, at 5.55 to American; 50,000 bags of Puerto Ricos, on March 4th, at 5.45 to National; and 2,000 tons of Philippines, on March 4th, due March 16th at 5.45 to American.

The spot price of raw sugar today quoted by the New York Coffee and Sugar Exchange, is 5.40 *which is* 15 *points lower than the spot price was* 15 *days ago, and* 92 *points less than the* 6.32 *price prevailing before the Secretary of Agriculture announced his first consumption estimate on January 5th. The* 5.40 *price is* 15 *points less than the spot price prevailing when the Secretary of Agriculture announced his second consumption estimate on February 26th.*

There have been consistent rumors that the price of refined sugar will soo be reduced but thus far all major re finers continue to quote 7.75 as the list price. All shippers are apparentl applying the price in effect on the dat of the arrival of the sugars indicatin that the trade is expecting a drop i prices.

The only new development in th strictly Louisiana markets was a sale Louisiana blackstrap molasses at 2 cents a gallon, in bulk f.o.b. plantatio This price is 10 points down from th last quotable sale.

Marshall Resigns as Sugar Branch Directo

James H. Marshall has resigned Director of the Sugar Branch, Produ tion and Marketing Administration, accept a position in private industr (California and Hawaiian Sugar R fining Corporation) and Lawren Myers, Associate Director of t Branch, has been appointed to succe him, Secretary of Agriculture Clint P. Anderson announced on March 9t Mr. Marshall's resignation will be fective April 3.

Mr. Marshall has served as Direct of the Sugar Branch since June, 194 He had previously been associated wi the Department of Agriculture and t Commodity Credit Corporation for mo than ten years, specializing in sug and other crops in various administ tive positions.

Mr. Myers came to the Departme of Agriculture from Minnesota in 19 A native of Humboldt, Iowa, he ceived his academic training largely Iowa State College and the Univers of Minnesota. Myers has served w a number of agencies in the Depa ment, working on economic proble and handling the administration of p duction, marketing and price supp programs for various agricultural co modities. Before his transfer to t Sugar Branch in June 1946, he was Assistant to the Secretary of Agric ture.

CROP NEWS

(Continued from Page 181)

revailing up to the time of his report ıay effect the stands. Field operations, e reports, have been delayed by the xcessive rains and the farmers in his istrict have not been able to take the inter cover crops off their plant cane. he fertilizer situation remains critical ut some ammonia and aqua ammonia coming into the Parish which, Mr. Villiams says, will help to relieve the tuation. Most of the farmers in Iberia arish have not been able to plant corn nd early Irish potatoes because of the et weather.

Ascension Parish. In a report from . S. Landry, county agent of Ascenon Parish, dated March 8th, Mr. andry stated that the continued rainll has further delayed work in the ıgar cane fields in his district. He ays that 9.5 inches of rain fell during ıe week ending March 6th. On well rained fields no damage to the plant nd stubble canes is anticipated, except ossibly on late planted cane which was lanted during the drought of last fall, nd, perhaps, in a few stubble fields. tubble shaving, he says, is in progress ut not completed, and very little plant ıne has been scrapped or shaved. No orn has been planted.

THE COST OF TRASH

(Continued from Page 180)

ow has a peak capacity of about 1750 ons and an actual grinding average of bout 1400 tons per day. It handles ıne with a total average trash of 10% which 7% is deductible and grinds 0,000 tons of cane now in 70 days of hich 10,000 tons are worthless trash. nows turns out bagasse of 50% oisture and 2.75 sucrose by the hardt and a final molasses of 32 purity. s undetermined loss on cane is now 0.

Let us consider the cost of some of ıe items listed above.

1. The cost of taking trash samples ıries considerably from factory to facry. Some use as low as two men, hers as high as seven men. Assuming ı average of 4 men the cost per day at the minimum wage is $24.00 and for 70 days is $1680.00. The fact that the present method of taking samples by hand from a truck, cart, or railroad car gives low figures can hardly be disputed. In taking a sample from a matted mass of trashy cane by hand it is practically impossible to pick up the cane without pulling some of it from the bundle. This leaves a portion of the trash behind. However, this is an intangible item and will not be considered.

Items 2 and 4 will be considered together as both are causes of slow grinding rates. This factory now takes 10 days longer to grind 100,000 tons than it did with clean cane. Each day means 150 men at 57½ cents per hour or $862.50 per day. Extra fuel, oil, and other grinding costs will bring this daily cost to $1100 and for 10 extra days will mean $11,000.

3. Trash has an average moisture content of approximately 50% over the season. It will be considerably higher during damp weather and much lower when the trash is dry. However, it can be assumed that the weight of trash will appear as bagasse practically unchanged in weight. One hundred thousand tons of cane with a trash content of 10% were ground so that 10,000 tons of trash entered the mill and came out as 10,000 tons of bagasse. It had no sucrose when it entered and now has 2.75% or a total 275 tons of sucrose. Assuming that 80% of this sucrose had been recovered as 96° sugar, 200 tons of sugar would have been saved and at a net value to the factory of 6 cents per pound would be worth $26,400. The other 55 tons of sugar would show up in molasses and at 4.0 pounds of sucrose per gallon would yield 27,500 gallons of molasses which at 24 cents per gallon or $3850.00 makes a total of

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$30,250 which has been robbed by the trash from the cane paid for.

5. The amount of mud produced by trashy cane is considerably greater than that produced by clean cane. In the days when presses were used the press cake averaged from 30 to 35 pounds per ton. Oliver cake including bagacillo ran about 50 pounds per ton of cane Figures from actual measurement sho Oliver cake running about 100 pound during dry weather to 200 pounds du ing wet weather. Using 125 pounds a average this is 75 pounds more tha the cake from clean cane. Assumin that 50% is bagacillo there are 37. pounds more cake per ton and at 2% sucrose is a loss of .75 pounds suga per ton or 75,000 pounds per seaso In sugar and molasses this sucros would have a value of $4200.

The practice of ditching mud has u fortunately become quite common the past few years. This is a misnom for when mud is ditched it is not mu but dirty juice for it is only when t mud will not settle is it ditched. Wh the practice is once started, it is ha to supervise the workmen careful enough to prevent them from usi this method as an easy way out clarifier troubles. In the writer's opi ion this is the cause of the high u determined losses now so common. H has seen reports showing such loss from .40 to .60 on cane.

Assuming our hypothetical facto has a loss of .30 where the average b fore was .18. This is an increase of . on cane or a loss of 2.4 pounds of sug per ton worth 14.4 cents or $14,400 a crop of 100,000 tons.

6. Our assumed factory made 6.5 g lons of molasses at 32 purity where t purity had been 28 before. With m lasses at 24 cents the value of t product to the factory is 16 cents p gallon or $1.04 per ton. If this molass were reduced to 28 purity it wo yield 3.6 pounds of 96° sugar and 6. gallons molasses. The value of t sugar would be 21.6 cents and the m lasses 97.9 cents or a total of $1.1 or a difference of 15.5 cents per ton $15,500 on a crop of 100,000 tons.

7. As our assumed factory paid 5 cents per ton for freight and there w 10,000 tons total trash it spent $5,0 for hauling into the factory an it not only worthless but the cause great losses.

8. Our factory ground 100,000 t

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of trashy cane. Of this 10,000 tons were trash. At a grinding rate of 1400 tons this factory spent a little over 7 days of its grinding time grinding trash alone. At $1100 per day this cost $7,700.

9. This item, increased wear and tear on machinery, is hard to figure, but the amount is very large. Carrier chains, knives, mill rolls, intermediate carriers, trash elevators, juice pumps, pipe lines —in fact every piece of equipment that comes in contact with cane, raw juice, mud or muddy filtrate wears out with startling rapidity. In the writer's opinion $10,000 a year is a fair estimate of increased cost due to excessive wear.

A recapitulation of these losses is:

Sampling trash	$ 1,680.00
Decrease in grinding rate	11,000.00
Loss of sucrose in trash in bagasse	30,250.00
Increase in press cake	4,200.00
Increase in undetermined loss	14,400.00
Loss in higher purity molasses	15,500.00
Freight on trash	5,500.00
Cost of grinding trash	7,700.00
Excess wear and tear on machinery	10,000.00
	$100,230.00

These figures show that the losses caused by trash are tremendous.

With the very good possibility of the price of sugar and molasses declining, wage rates being increased considerably, and the cost of replacements staying at their present high level or even going higher, the picture looks rather dismal.

Some method of getting cleaner cane must be developed and this is a problem for the best brains in the industry to work upon.

Presented at the Annual Meeting of the American Society of Sugar Cane Technologists, Houma, La. Feb. 12, 1948.

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837 Whitney Building
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THORNTON GRAB & DERRICK WORKS, INC.
Jeanerette, La.

WHITNEY NATIONAL BANK
New Orleans, La.

IN WASHINGTON

Continued from Page 179)

ventory deficiency set forth in th determination of sugar consumptio requirements on January 2, 1948.

"Since the basis price for refine cane sugar at wholesale has droppe to 7.75 cents per pound, *the applica tion of the price relationship facto set forth in the act would, considere alone, warrant a price in excess o the current price.* However, it is con cluded, after careful consideration o all factors involved, including th change in the allowance made abov for a surplus in inventories of suga that a further adjustment in the con sumption requirements is not nece sary at this time to maintain th objective of 'prices which will not b excessive to consumers and which wi fairly and equitably maintain an protect the welfare of the domest sugar industry. . . ."

"Except to the extent modifie herein, the Statement of Bases an Considerations contained in the d termination of January 2, 1948, unchanged."

USDA's press release which a nounced the reduction in the consum tion estimate to 7,500,000 tons, aft discussing the Basis and Consideratio in arriving at the Determination, co tained the following encouraging an significant paragraph:

"The Department pointed out th it will have no reluctance in maki further revisions in its determinati of domestic consumption requi ments if future distribution indicat that such revisions are justified. Th Sugar Act requires that ample su plies be made available for domes consumers without creating pri depressing surpluses that *threaten* th welfare of domestic producers."

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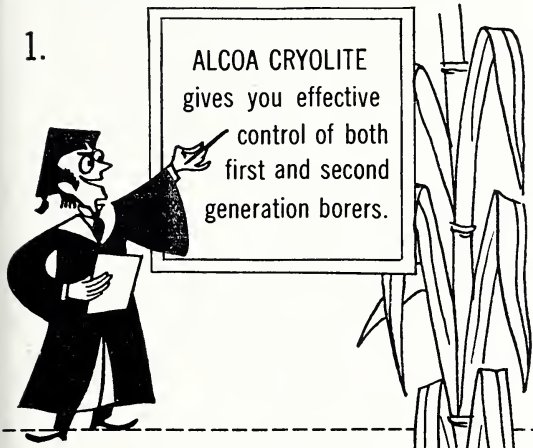

It's the selective insecticide... Helps save beneficial insects that destroy the borer eggs.

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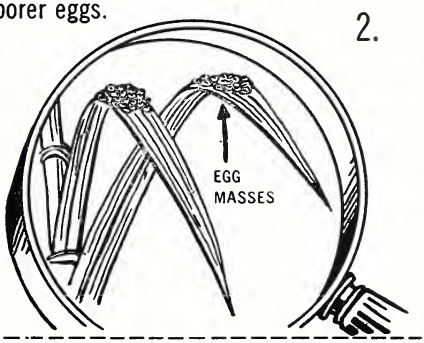

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The above picture shows the Model "A" mounted on circular track which, in tur is bolted to truck body floor for straight-away burning. When so mounted the bur er unit can be swung through an arc of 180 degrees by the operator. The low picture with the same mounting shows the burned set at an angle with a speci burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a dens high velocity, intensely hot flame which sears green vegetation quickly. Under ave age conditions the first trip can be made at about 8 m.p.h. and the second trip, whi should be made from 2 to 10 days later after the sun has dried the vegetation, t speed may be much faster—10 to 15 m.p.h.

The Model "A" burning a swath 5 feet wide at 8 m.p.h. consumes 8 gallons of fu oil per mile. At 5c per gallon the cost would be 40c. Burning one acre at the sa speed consumes 13 gallons of fuel oil; at 5c per gallon the cost would be 65c.

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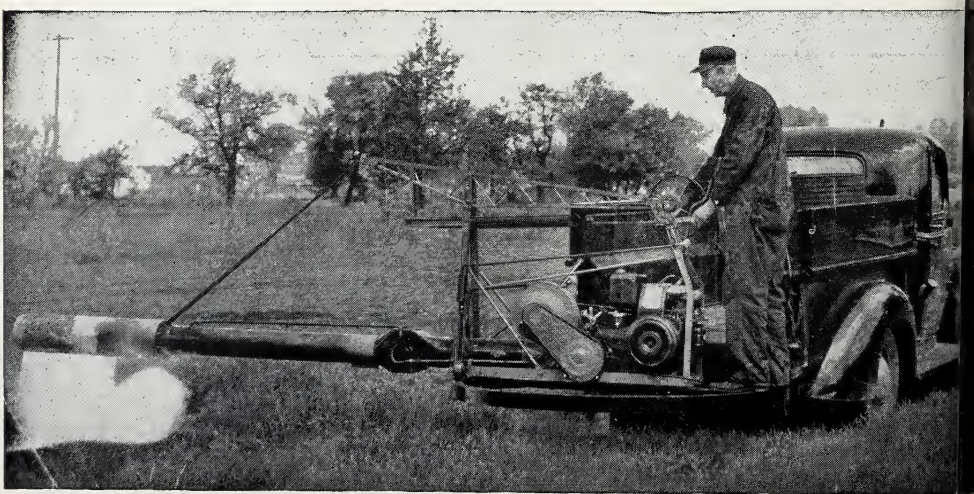

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THE SUGAR BULLETIN

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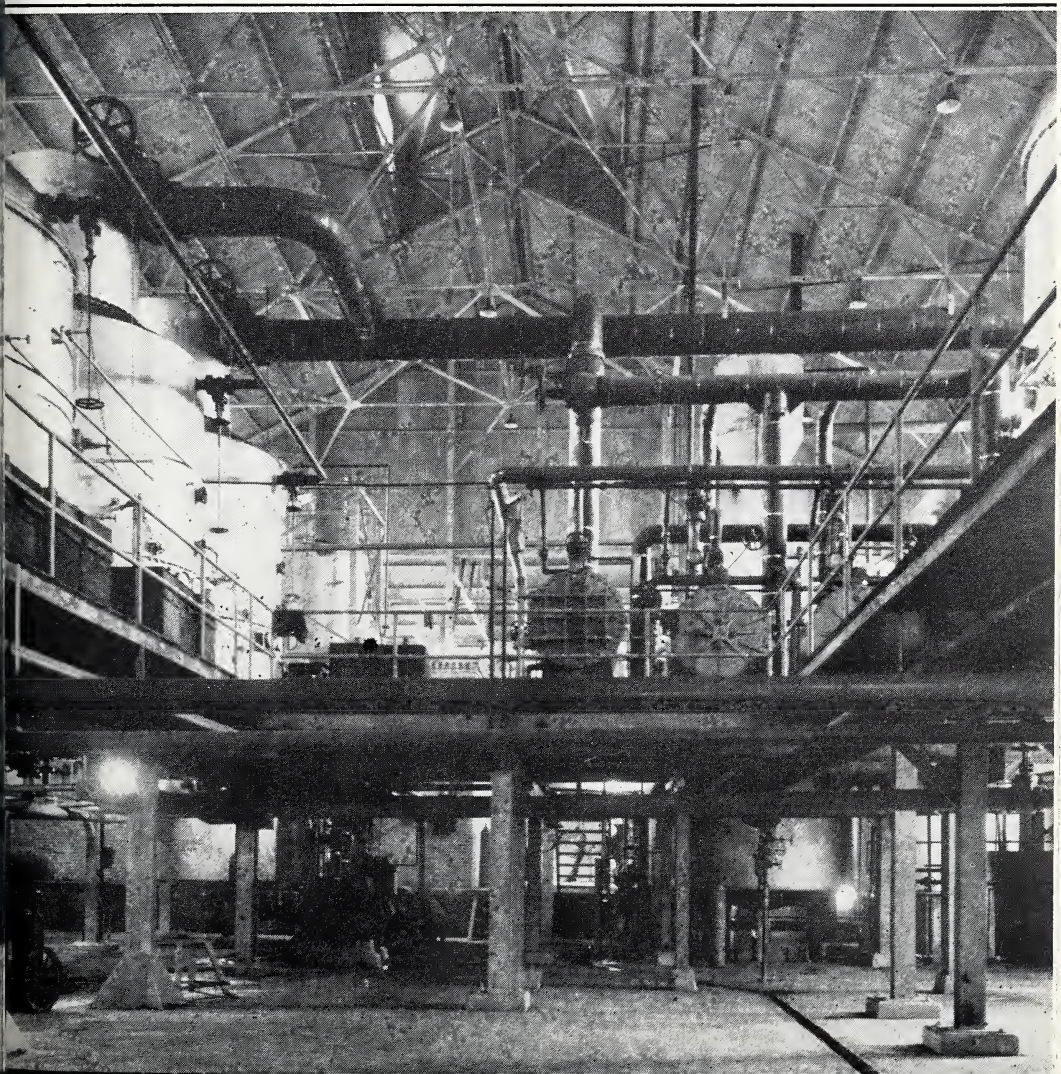
26 NEW ORLEANS, LA., APRIL 1, 1948 No. 13



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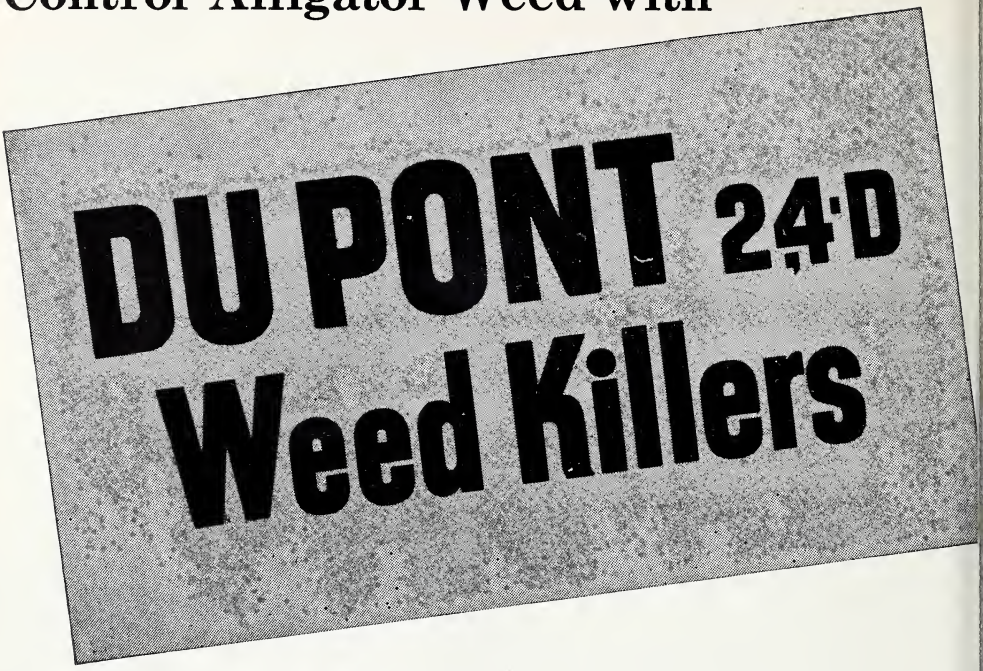

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414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription 50 cents a year

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IN WASHINGTON WITH C. J. BOURG

FACTS ABOUT SUGAR PRICES

The Sugar Act of 1948 set standards for establishing annual sugar consumption estimates. The House Committee on Agriculture, when reporting the bill favorably, stated: "The over-all or controlling guide is the provision which requires the establishment of a supply of sugar which will be consumed at prices which will not be excessive to consumers and *which will fairly and equitably maintain and protect the welfare of the domestic sugar industry.*" (80th Congress, 1st Session, Report No. 796, p. 3.) The present 7.5 million-ton consumption estimate is such that current sugar prices are not in line with Sugar Act standards.

1. Distribution of sugar for 1948 to date has been at a rate equivalent to about 5.25 million tons for the year. Distribution for the rest of 1948 must be at a rate equivalent to 8.25 million tons to bring total deliveries for the year up to 7.5 million tons. If deliveries during the remainder of 1948 are at a rate equivalent to 7.5 million tons, total distribution for the year will be less than 7 million tons.

2. The present 7.75-cent wholesale refined sugar price is more than a cent a pound below the 8.83-cent price indicated by the standard set in Sec. 201 of the Sugar Act as a fair price balance between consumers and producers. Moreover, some domestic producers have been forced, by financial requirements, to reduce prices below levels related to the 7.75-cent basis, particularly in marketing raw sugar.

3. Current raw and refined sugar prices are low in relation to forme levels when compared with the level c consumer purchasing power and price of other items:

Item	Percentage increase of lates quotation above:		
	1935-39 av.	Jan. 1941	Mch. 1947
Raw Sugar (duty paid)	67	85	13*
Farm products	136	161	——
Prices paid by farmers	94	98	9
Wholesale refined sugar	63	77	5*
Wholesale foods	127	144	7
Retail sugar	79	93	2
Retail foods	110	114	11
Meats	133	131	12
Eggs	114	119	22
Dairy products	106	96	10

* Decrease.

4. The decline in sugar prices result ing from excessive consumption esti mates has caused gross inequitie among domestic cane sugar areas cur rently selling sugar, inasmuch as th beet sugar industry alone has the prc tection of an 8.10-cent price guarante from CCC.

5. That current sugar prices are nc sufficient to maintain the domesti sugar industry is further shown by th Department's March 1 report of prc ducers' intentions to plant 902,00 acres of sugar beets in 1948 which, a average yields, would produce a 194 beet sugar crop of 1,600,000 tons, abou 200,000 tons below the sugar bee quota.

6. Sugar at an 8.83-cent wholesal refined price would not be excessiv but to the contrary would be relativel favorable to the consumer. It woul be 18 percent cheaper in relation to th

(Continued on Page 202)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The vastly improved weather conditions during the past ten days are reflected in the reports from the County Agents and it is good to be able to pass along this more optimistic news from the Parishes regarding the condition of the cane crop. The fertilizer situation, however, is bad.

St. John Parish. Reporting from St. John Parish on March 23rd, Otis J. Broussard stated that only one farmer in his district would use Aqua Ammonia as a fertilizer this year and that about eighty per cent of his farmers were being affected by a fifty per cent shortage of fertilizer at this time. On the brighter side, Mr. Broussard reports that the job of off-barring in his Parish is about half completed and that good weather has allowed the farmers to just about catch up with their farming operations.

Lafourche Parish. A. J. Moreau also sent his report in on March 23rd. He states that considerable field work has been accomplished during the good weather on well drained lands in his area. Corn planting is going forward and potato spraying for late blight is in progress. The canes, Mr. Moreau says are slow in sprouting, especially in poorly drained fields and some plant and stubble looks bad at this time. It is still a little too early, however, to tell whether these canes have been permanently injured.

Ascension Parish. In another report dated March 23rd E. S. Landry advises us that the sugar planters in his district have been working overtime to get their fields in order. All are busy shaving plant and stubble and off-barring. Old stubble is being destroyed and corn planting is in progress on these lands. Stands of both plant and stubble are showing up well. The nitrate fertilizer situation, Mr. Landry states, is very serious and many of his farmers have received none so far. His Parish is about 50% short of its fertilizer needs.

Vermilion Parish. From Vermilion Parish, J. E. Sobert reported on March 23rd that the field work in his district was from 3 to 4 weeks late on that date. He states that the plant canes are up to a good stand and that the first and second year stubble canes are looking very promising. Winter legumes, which are averaging about four tons of green matter per acre on the plant cane, are now being turned under.

Avoyelles Parish. Nitrogen fertilizer is scarce and not available in some sections of Avoyelles Parish, according to our report from A. K. Smith, Jr., dated March 23rd, and two of the farmers in his district are equipping to use Anhydrous Ammonia this year. The plant canes of C. P. 36-13 and C. P. 36-105 are coming up to good stands but other varieties are making slower progress. The stubble of 36-105 is also up to a good stand. Much field work has been accomplished during the dry weather.

Iberia Parish. In a report from W. E. Williams, dated March 27th, we are advised that the sugarcane farmers in Iberia Parish have taken advantage of the good weather prevailing during the past two weeks and are planting corn as rapidly as possible. Sugarcane is being off-barred, hoed, fertilized, and the dirt brought back. The plant cane and first year stubble canes are coming out to a satisfactory stand. However, Mr. Williams states, there is a little complaint about the second year stubble. The fertilizer situation is still critical. Some aqua ammonia and anhydrous ammonia is coming into the Parish, however, and this is helping to relieve the situation. The farmers in general are about three weeks late in their farming operations, but, with good weather, Mr. Williams thinks this lateness will be overcome in the next thirty days.

DR. CLAUDE WILBUR EDGERTON HONORED

The resolution printed below was adopted by the Contact Committee of the American Sugar Cane League at a meeting held in Baton Rouge on March 17th, 1948.

Gentlemen:

As we meet here today we find awaiting us a pleasant task, the formulation and adoption of a resolution commending the work and the ability and the conscientiousness of a fellow human being, a man who for forty years has been living here among us helping us to solve the intricate problems of plant life, with which we are so deeply concerned. This man has also been for 25 years identified with the Contact Committee of the American Sugar Cane League.

It is my agreeable duty, gentlemen, to offer to this meeting for adoption the following resolution:

WHEREAS: The material welfare of us all as members of the sugar cane growing fraternity of Louisiana is almost wholly dependent on scientific knowledge of plant pathology and

WHEREAS: An outstanding figure to whom we are indebted for far reaching help and counsel in this regard is *Dr. Claude Wilbur Edgerton* Professor of Plant Pathology at the Louisiana State University and Agricultural and Mechanical College at Baton Rouge, La., with which he became connected in 1908 in the capacity of Plant Pathologist of the Louisiana Agricultural Experiment Station and

WHEREAS Dr. Edgerton has ably and indefatigably striven ever since to be of practical assistance to the sugarcane growing industry of this State and

WHEREAS: We who are in the business of growing sugarcane in Louisiana are deeply grateful to Dr. Edgerton for what he has done and still is doing in our behalf and want to officially express our obligation to him and the affection and respect in which we hold him, therefore be it

RESOLVED: That we offer to him heartfelt thanks and deep appreciation in the name of the thousands of sugarcane growers in the State of Louisiana whom he has benefitted, and be it further

RESOLVED that we recite as a part of this resolution, so that all may know, a sketch of his career.

Claude Wilbur Edgerton was born March 9, 1880 at Woodbine, Iowa. His first College work was done in Nebraska where he obtained the B. Sc. degree in 1903. The Ph.D. degree was obtained from Cornell University in 1908. On Feb. 14, 1908 he came to the Louisiana State University as Plant Pathologist with the Louisiana Agricultural Experiment Station. As one of the pioneers in Plant Pathology in the South, he made the most of his opportunities. Very little research work had been done on diseases of plants in the Southland and Dr. Edgerton threw himself wholeheartedly into the task that awaited him. Diseases were becoming of major importance in such crops as cotton, tomatoes, citrus, sugarcane, beans, watermelons, and many others. Claude Wilbur Edgerton was a born researcher and an indefatigable worker. His publications rolled off the press. *The fact that he has never had to retract a scientific conclusion of major importance is the highest tribute that could be paid to his judgment and integrity.*

Dr. Edgerton reported Red Rot in sugarcane in Louisiana in 1910 and worked feverishly to show the importance of this disease in the failure of the Noble canes through the years. In like manner, he and his coworkers demonstrated the role of Root Rot in sugarcane. In 1919 he reported sugarcane Mosaic in Louisiana and in the years that followed major research contributions were

(Continued on Page 204)

LEAGUE FIGHTS FOR FERTILIZER

The recent Canadian embargo on the shipment of fertilizer is preventing the filling of orders for cyanamid placed by the Louisiana sugarcane farmers last fall and the American Sugar Cane League is trying to do something about it.

Mr. Murphy J. Foster, President of the League, left for Washington by plane on Sunday, March 28th to confer with Mr. C. J. Bourg, Washington representative of the League, on this very vital issue, and to see what can be done for the local industry in this crisis.

In addition to his efforts to clear the Canadian fertilizer, Mr. Foster will also hold conferences with the powers that be in our nation's Capitol looking to the possibility of making available to the Louisiana sugarcane farmers some of the fertilizers presently being exported to foreign countries. The League believed that a slight delay in the export schedule of these fertilizers could possibly provide the relief so urgently needed now by the Louisiana sugar industry.

—o—

Loans Available For Johnson Grass Control

F. Evans Farwell, Chairman of the Johnson Grass Control Committee of the Contact Committee of the American Sugar Cane League, has announced that the State Agricultural Credit Corporation will now make a special loan of up to $5.00 an acre to cane farmers to fallow plow their lands for the control of Johnson Grass.

Mr. Farwell, Mr. Bronier Thibaut, Mr. Horace Nelson, and Mr. W. S. Chadwick, who compose the full Johnson Grass Control Committee, have been working for some time on the Johnson Grass problem, and the fact that they have been successful in hav-

(Continued on Page 206)

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For cleaning drainage ditches on their sugar cane land, the Westover Plantations near Port Allen, La. use a Link-Belt Speeder LS-50, with a bucket built to fit the contour of the ditch and a 12-foot wide tread which enables machine to straddle the ditch. In addition to drainage work, the LS-50 is used as a crane during harvest season for handling and loading the sugar cane.

THE NEW LINK-BELT SPEEDER AGRICULTURAL DITCHER is a modification of the standard Link-Belt Speeder half yard capacity dragline, used by contractors in all parts of the country for many years. A machine of proven efficiency and long life, it is selected from the broad Link-Belt Speeder line as the model best suited to the needs of sugar plantations and other agricultural work. Special features developed for this service are: 1. Wide gage frame, with 10′-2″ clearance between tracks; 2. 24-inch tracks; 3. Creeper device, giving travel speed of 27 feet per minute; 4. Special shaped bucket, to fit the contour of the ditch. As a crane it has a lifting capacity of 4 tons at a 12-foot radius and a travel speed of 2.4 miles per hour.

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One-Man Cane Loader
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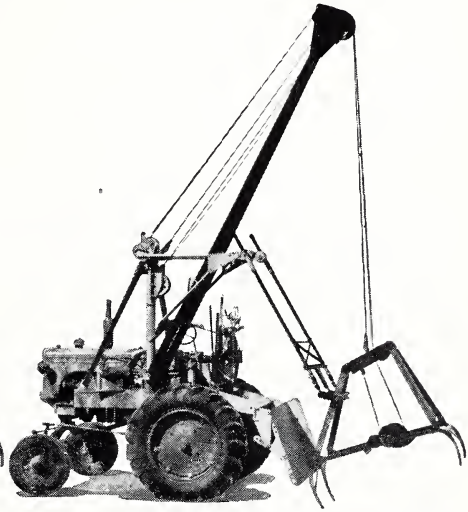
Two Models

Model M-1 — with Standard Farmall MV Tractor



Model MM-1 — with Standard Minneapolis-Moline VTC Tractor

Link-Belt Speeder Cane Loaders are solving profitably the cane loading problems of many Louisiana cane growers.

SPECIAL FEATURES

The simple operation of the hydraulic system gives One-Man operation with only two levers. Goose Neck Boom, 17 feet long —450 lb. Counterweight—Lifting Grapple has 1000 lbs. capacity—Front or Rear loading optional—Loader attachment can be easily removed, freeing the tractor for other uses during the off season. Choice of two well known makes of tractors.

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THE MARKETS

(*March* 29, 1948)

Quotations in the future market ha shown a tendency to strengthen duri the past ten days and the #5 contra has worked its way back up to whe prices are above the 5 cent mark aft sliding down to a low for July of 4. on March 12th.

Closing quotations today in the # contract show May at 5.05, which an advance of 12 points since our r port on March 10th. July is 5.05, u 12 points; September is 5.06, up points; December is 4.97, up 13 point and March and May are both 4.7 which is an advance of 18 points sin March 10th.

The sales of actual sugars report during the period were as follow 3,000 tons of Cubas, on March 17t for prompt shipment at 5.32 to Sava nah, equal to 5.38 New York; 35,0 bags of Puerto Ricos, also reported March 17th, at 5.30 to America 20,000 bags of Puerto Ricos, on Mar 19th, for prompt shipment at 5.40 Refined Syrups; 2,000 ton of Phili pines for March-April shipment at 5. and 2,000 tons of Philippines for Apr May shipment at 5.50, both report on March 22nd and both to operator a Puerto Rico cargo with outport o tions, also on March 22nd, at 5.50 American; 3,500 tons of Philippines, March 23rd, for April-May shipme at 5.50 to American; 4,500 tons Cubas, on March 23rd, for the 2 half of April shipment, at 5.40 to I perial; and 5,000 tons of Philippin on March 24th, for April-May shi ment, at 5.50 to American.

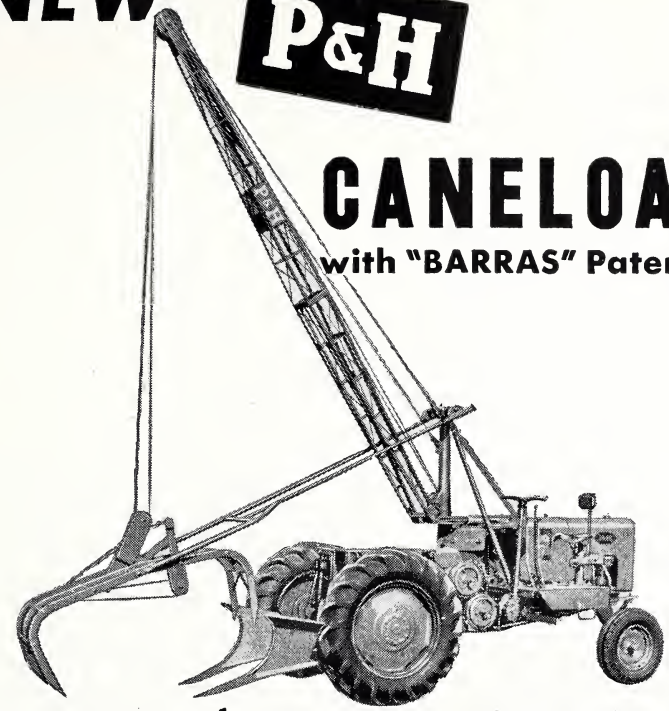
IN WASHINGTON

(Continued from Page 196)

1935-39 level than are all foods. Mor over, at this price, consumers wou spend far less of their income for sug than before the war, total personal i come having increased 204 percent, a average weekly factory pay rolls, 1 percent. The 8.83-cent price wou represent an 86 percent increase fro pre-war sugar prices, as compared wi 110 percent for food at retail.

THE NEW P&H CANELOADER

with "BARRAS" Patented Piler



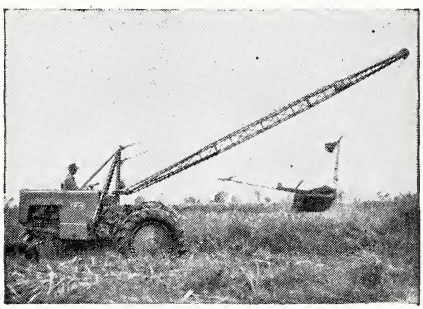
Engineered for the CANE FIELDS

The new P&H Caneloader is designed specifically for sugar cane growers. It is the only machine on the market that provides year-around service — as a caneloader in cutting season — or as a dragline for cleaning ditches.

A few of many important features:

- Has the "Barras" patented piler.
- Hydraulic leveling adjusts for uneven terrain and for wide or narrow rows.
- Independent traction clutches and brakes on each wheel for better steering in heavy mud.
- Four forward and reverse speeds are provided.
- One-man operation — faster and easier.

Now in one versatile machine you can have lower-cost cane loading and efficient ditch cleaning. Get complete information. If you are in Louisiana, see Dunham-Pugh, Baton Rouge or New Orleans, La. Otherwise write to the Harnischfeger Corporation.



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DR. EDGERTON HONORED

(Continued from Page 198)

published by scientists most respo sible in pointing the way through r search to the development of ne varieties of sugarcane which embodi the characteristics of resistance to t disastrous mosaic.

In 1924, Dr. Edgerton was ma Professor of Plant Pathology a Head of the Department of Botan Bacteriology, and Plant Pathology Louisiana State University, directi research work, along with teachin and administrative duties of the D partment. That position he still hol

Dr. Edgerton was one of t Charter members of the Americ Phytopathological Society, which S ciety he helped organize in 1909. 1918 he was Vice-President and 1925, President of the Society.

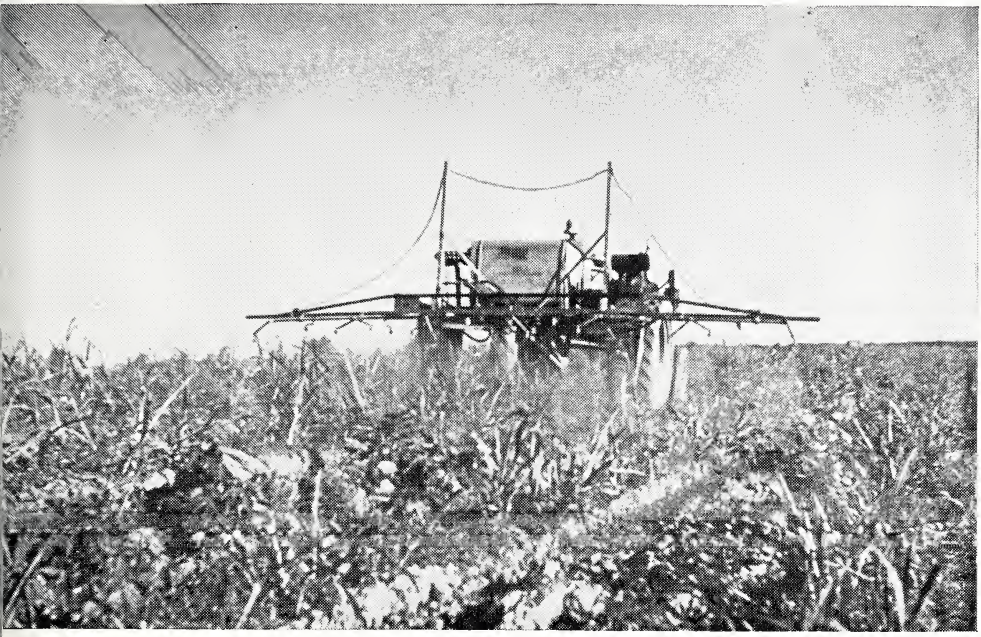
Starting from scratch, Dr. Edg ton has built up, almost single han edly, one of the best Biology librar in the South. In addition, he has a sembled, tutored, and directed faculty in his Department which without peer in the Southland. H ambition has been to build a Depa ment of Botany, Bacteriology, a Plant Pathology that ranks with su famous Universities as Minneso Wisconsin, and Cornell in this fie With the library, the faculty, and t graduate students he has had duri the last twenty years he has at le approached this lofty goal. He h directed over 100 theses for t Master's degree and about 20 for t Doctor's degree.

In research and in education, I Edgerton is recognized as one of t leaders in Biology in America tod and we do now so declare with c acclaim and congratulations.

Presented by the Contact Commit American Sugar Cane League, Stephen C. Munson, Chairman.

(After the Resolution was read Mr. Voorhies, it was added that I Edgerton had served as Secreta Treasurer of the International Soci of Sugarcane Technologists in 193

Kill Alligator Weed Let the Cane Grow!



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DOW

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(Continued from Page 199)

ing the State Agricultural Credit Corporation sanction an additional loan for the control of this enemy of the cane crop is proof of the fine job that they have done.

When advised of the decision of the Credit Corporation to make advances for Johnson Grass control, Mr. W. G. Taggart, Director of the Louisiana State Experiment Station, stated that he knew of no other practice more capable of paying large dividends than fallow plowing for the control of Johnson Grass. "When it is properly done", Mr. Taggart stated, "the increased yields, due to the control of the grass, will more than pay off in the first crop."

BLUE STRIPE BAGS

We offer 16,500 blue stripe Cuban sugar bags in original bales delivered your plant. Price 40¢ per bag.

ALMA PLANTATION, LTD.

Lakeland, La.

NEW IBERIA TO GET JACKSON MACHINERY CO. BRANCH

The Jackson Machinery Company o New Orleans has announced that, i line with their policy of providing th Louisiana sugar cane farmers with th best possible service, a branch plan will be opened about May 1st, 1948, i New Iberia, Louisiana.

The New Iberia sales and servic branch will be in a position to rende more efficient service to Southwes Louisiana farmers and contractors.

Mr. R. W. Merrick, owner of th Jackson Machinery Co., has also an nounced that, in conjunction with hi representation of the Link-Belt Speede Corporation, he will also represent th Minneapolis-Moline Power Implemer Company in this area and stock repai parts and replacements for Link-Be Speeder draglines, caneloaders and Mo line Farm tractors.

FOR SALE

Expansion Joints for 200# pressure—All New

1- 3"- ¾"—200# pressure, 100° Superheat (F. C. E. J.) Stainless Steel Sleeve		(DACE)	Badger	$ 95.09
1- 3"-2¼"	"	(DEED)	"	116.38
1- 6"-1¼"	"	(DEMI)	"	150.29
2- 6"-2 "	"	(DIEM)	"	165.59
1- 6"-2¾"	"	(DIET)	"	180.88
1-10"-1¼"	"	(FROG)	"	273.00
1- 8" —Single Corrugations 10# Pr.		(BUCK)		46.40

Second Hand Pumps

1—Blakes Simplex Pump Steam, No. 45891, Size, 8"s x 5"L x 10" Str.
1—Knowles Simplex Steam Pump, Size, 8"s x 6"L x 12" Str.
1—Knowles Duplex Steam Pump, No. 41132 & 33, Size, 8"s x 6"L x 12" Str.
1—C. P. Deanes Simplex St. Pump, Size, 10s" x 12"L x 10" Str.
1—DeLaval Steam Turbine Boiler Feed Pump. 175 G.P.M. 310 Ft. Net Head. 3000 R.P.M.
1—Blakes Simplex Juice Pump, Size, 10s" x 10"L x 14" Str.

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BELLE ROSE, LOUISIANA

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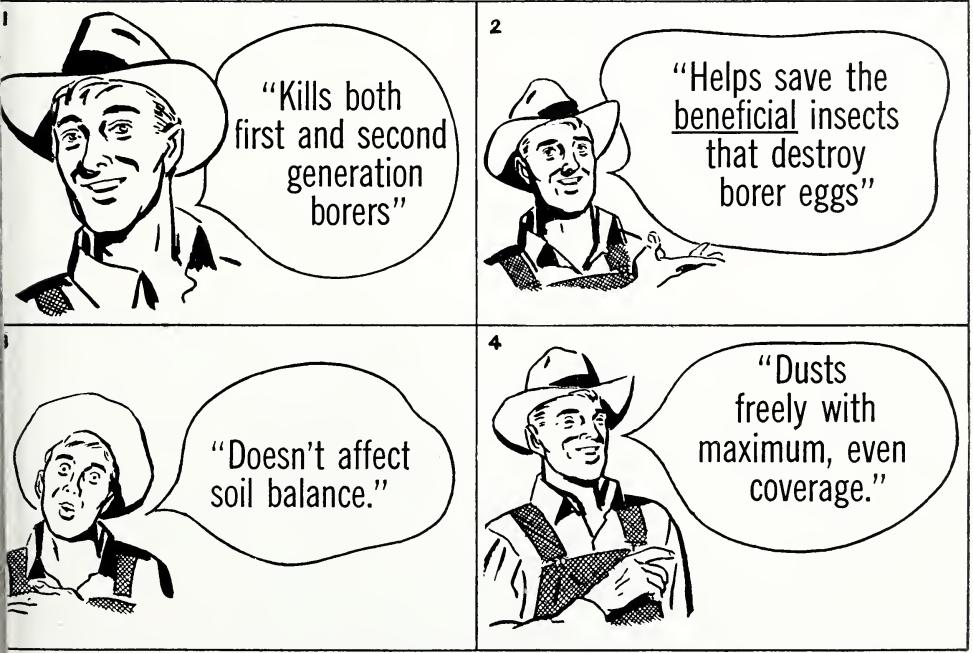

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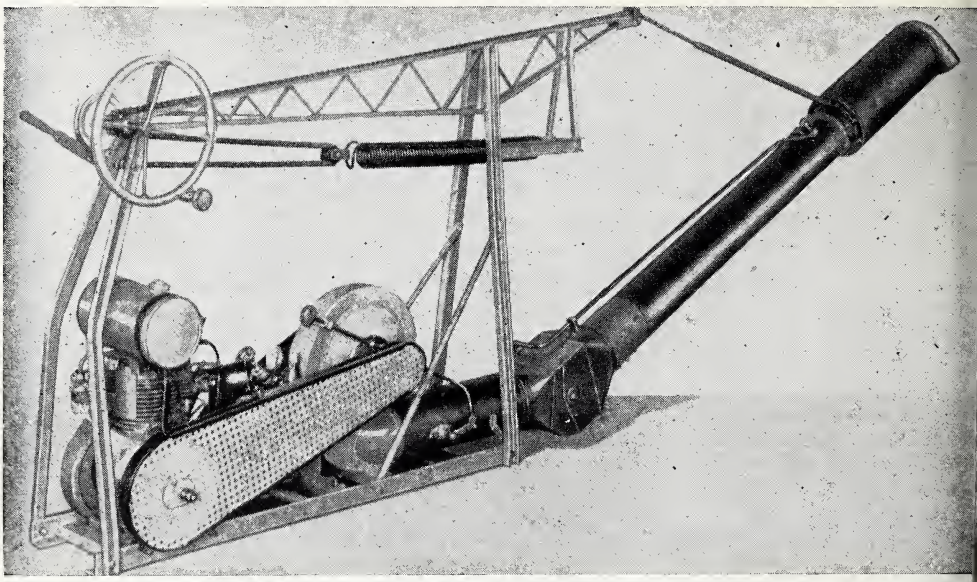
CHEMICALS DIVISION

1853 Gulf Building ★ ★ ★ ALCOA ★ ★ ★ Pittsburgh 19, Pa.

PACKED IN 50-LB. BAGS, 6-LB. BAGS, AND HANDY 1-LB. SHAKER CANS

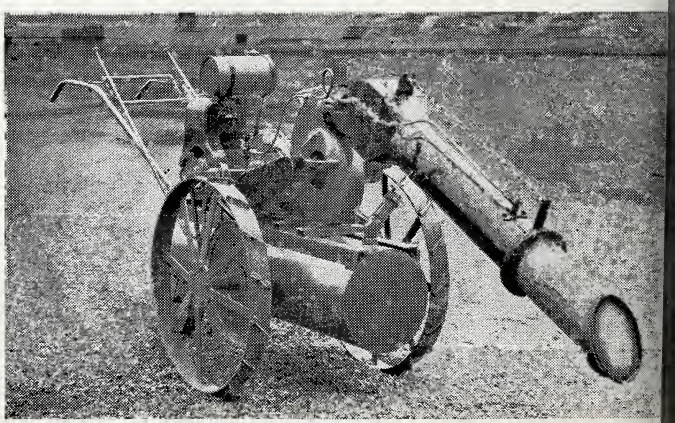
Alcoa Cryolite Insecticide

WOOLERY JUNIOR WEED BURNERS



Model "A" Woolery Junior Weed Burner Unit

The Model "A" shown above burns a swath 5 feet wide and has a wide range of adap tability. It may be mounted on a Railroad push car to be towed by a motor car or i can be mounted on a truck, tractor or trailer car and used for burning along high ways, fences, canal banks, irrigation, ditches, etc.



The Model "D" is a self-propelled unit built on an angle steel frame and mounted on a two-wheel chassis with either steel or rubber tires. It is especially adapted for flame cultivation between crop rows on sugarcane and pineapple plantations. Shields are provided on each side of burner hood and are adjustable. They can be swung in and out, raised and lowered, so as to give positive control of flame to prevent injury to crop plant. The entire space up to six feet between crop rows can be flamed by making one trip.

Its use is not restricted to weed burning alone, as it provides an efficient means for dusting cotton crops, spraying fruit orchards, potatoes or any other crops that come within this category.

Representative in Louisiana
WOODWARD, WIGHT & CO., LTD.
New Orleans 9, La.

WOOLERY MACHINE CO. Minneapolis, Minn

Pioneer Inventors and Manufacturers of Open Flame Type Weed Burners

Chemistry Library,
Louisiana State University,
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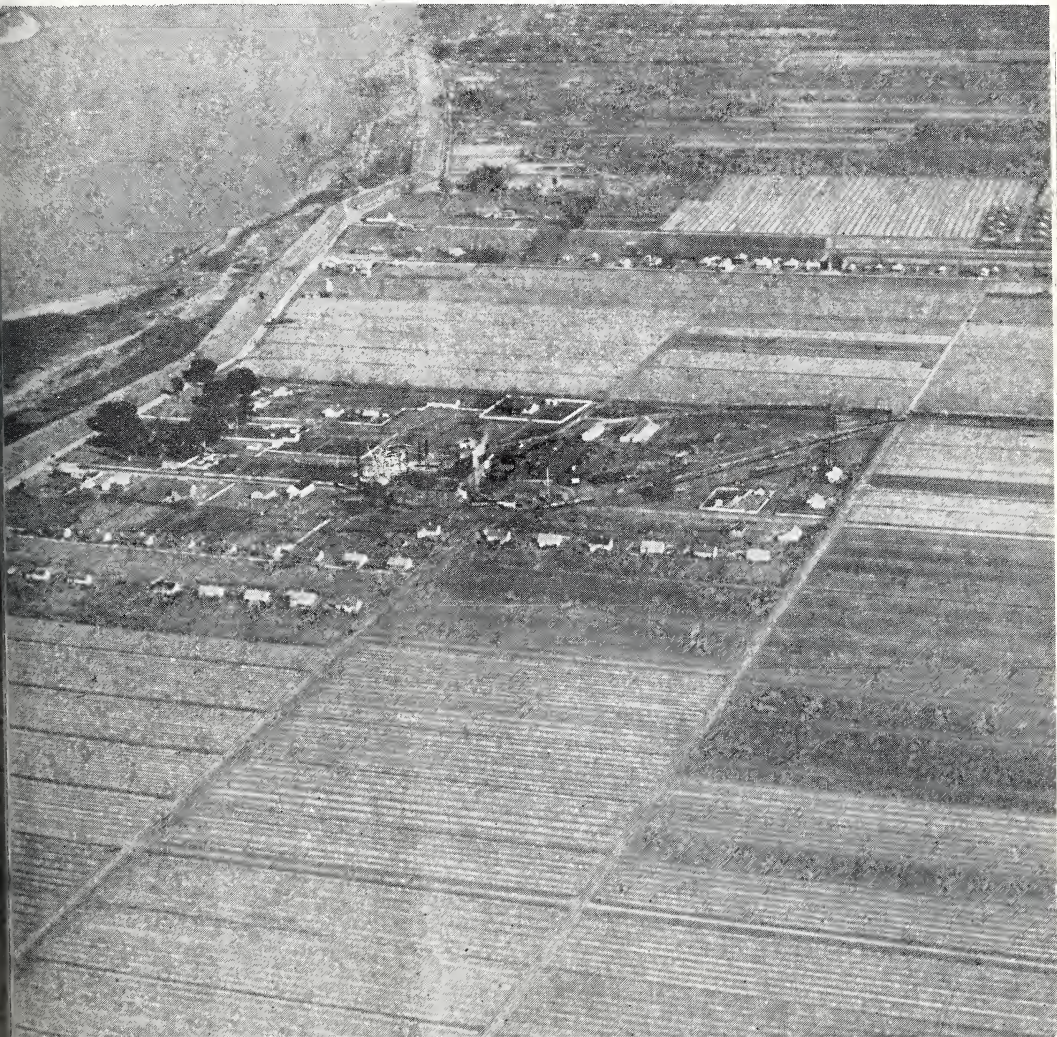
THE SUGAR BULLETIN

as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879

26 NEW ORLEANS, LA., APRIL 15, 1948 No. 14



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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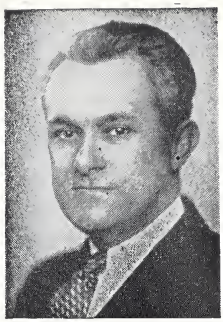
IN WASHINGTON WITH C. J. BOURG



THE FERTILIZER SITUATION

The past weeks have been intensely ctive because of the reports reaching Vashington that many fertilizer con-racts had been cancelled or reduced by he manufacturers with the result that ome of the smaller growers seemed to ave no prospect of getting any.

President Murphy J. Foster came to Vashington and personally accom-anied your Washington Representative o see the Secretary of Agriculture, the fficials of the Sugar Branch and the ertilizer Branch, and the Senators and ongressmen from Louisiana, especially ose who represent the sugar districts.

Based upon a survey made by Coun-y Agents in 18 parishes, showing a ort supply of fertilizer to be in pros-ect as compared to the needs, no venue of possible relief has remained nexplored.

Recognizing that the demand for fer-lizer is much greater than the pro-uction, although that has been greatly creased since pre-war, the attention fertilizer manufacturers and distrib-ors has been directed by our Sen-ors and Congressmen to the urgency the immediate need to apply sugar-ne fertilizer by the first of May.

Cyanamid and ammonium nitrate to eet all the contract commitments in e Louisiana sugar belt have been thorized to be exported by the Cana-an Government. There has been some fficulty and uncertainty about getting rmits to import this fertilizer into e United States, but this has finally en cleared and the plans are to send to the sugar parishes of Louisiana 0 tons of ammonium nitrate due on existing contracts as well as an addi-tional 3000 tons of cyanamid to be de-livered to sugarcane growers on con-tracts made last fall and on which de-liveries were in doubt. The League has been assumed that the total of cyana-mid being delivered for 1948 application on sugarcane in Louisiana, some in the form of nitrate of ammonia substitute, will be at least as great in fertilizer tonnage as was delivered in Louisiana for the 1947 sugarcane crop, amounting to 18,000 tons cyanamid value.

It should be mentioned that the im-pression that the shortage in the United States is due to entirely too excessive shipments of large quantities of fer-tilizer to foreign countries is not justi-fied, in view of the official figures which show that 187,000 tons of nitro-gen are being imported into the United States, while only 61,000 tons are being exported.

Assurances have been received re-garding the importation of Chilean ni-trate of soda into the Louisiana area and cargoes due now to arrive in Lou-isiana ports are expected to complete deliveries before May 15th whereby a total tonnage of nitrate of soda will have been delivered in 1948 at least equal to the tonnage delivered last sea-son.

At this stage, it isn't possible to give exact figures of totals because the ship-ments of fertilizer are no longer sub-ject to Government control but depend upon individual contracts of farmers with the fertilizer manufacturer or dis-tributor. However, in view of the as-surances given and the apparent will-

(Continued on Page 222)

RECOMMENDATIONS FOR THE CONTROL OF THE SUGARCANE BORER IN LOUISIANA IN 1948 BY DUSTING WITH CRYOLITE

The following recommendations are made for insecticidal control of the sugarcane borer in Louisiana in 1948.[1] They are based on extensive cooperative investigations conducted since 1937. Either the first or the second generation of borers may be controlled successfully by dusting with cryolite, and seldom should it be necessary to dust the same field for both generations. For control of borers on a plantation scale, however, the first-generation dusting is preferable. It is also less likely to cause a build-up of infestation by the yellow sugarcane aphid. All the cane acreage known to be sufficiently infested should be dusted for first-generation borers. Then, if any additional infestations should develop later, these may be controlled by second-generation dusting. More detailed information concerning first- and second-generation control is presented below. Growers who plan to dust for control of first-generation borers should order their cryolite at once.

Control of First Generation

First-generation borers are those hatching from eggs laid by moths that have come from overwintered larvae. Dusting should be begun upon the appearance of unhatched and hatching eggs in large numbers, which is usually about the middle of April. Dusting is recommended for the control of first-generation borers (1) over an entire plantation, (2) on heavily infested areas from which there may be a substantial spread of borer moths into adjoining areas, and (3) on smaller areas of localized infestation. Dusting of a small part of a large infested area for the control of first-generation borers is not so effective because of the possibility of reinfestation from the nearby untreated cane.

The following points are important for successful control of first-generation borers:

1. Dust four times at weekly intervals, beginning with the general hatching of young borers.

2. Apply the dust at the rate of about 8 pounds per acre per application by ground machine or about 10 pounds per acre by airplane, while the air is quiet and the plants are wet with dew, which is usually between 6 p.m. and 9 a.m.

3. Use an airplane or power dusting machine for treating large areas, and a rotary hand gun for small areas. Under present conditions, it appears that dusting more than 300 acres on any one plantation by ground machine is impractical. In dusting by airplane the width of swath should not be over 36 feet.

4. On ground machines use one or two nozzles to the row. Two nozzles give some insurance against incomplete coverage through clogging or misplacement of nozzle.

The estimated total cost of dusting for the control of first-generation borers is $6 to $7 per acre. About 10 acres can be treated per hour with a 3-row dusting machine, and about 15 acres per hour with a 5-row machine. One man with a hand gun can dust about 1 acre per hour.

Control of Second Generation

Second-generation borers usually begin to appear about June 10 to 25. Dusting to control the second generation is recommended for fields not previously dusted, and for entire plantations or small areas where there is danger of reinfestation from adjacent untreated cane. The important points to be observed are as follows:

1. Dust four times at weekly intervals as for first-generation borers, beginning with general hatching of second generation borers.

2. Apply the dust between 6 p.m. and 9 a.m. at the rate of about 1 pounds per acre per application.

3. Use an airplane, a rotary hand gun, or a power machine built up high enough to avoid breaking the cane. Large-scale dusting must be done by airplane. In dusting by airplane th

(Continued on Page 222)

YOUR COUNTY AGENT REPORTS

Information on Liquid Fertilizers

by

W. E. Williams, County Agent
Iberia Parish, Louisiana

MR. WILLIAMS

Liquid fertilizer such as anhydrous mmonia is obtained by treating nitro-en from the air with hydrogen under igh pressure and in the presence of ron rust.

It contains 82% nitrogen.

This ammonia is used in the manu-acture of several common types of olid nitrogen fertilizers such as am-nonium nitrate, nitrate of soda, (syn-hetic), and urea. The cost of the nanufacturing processes which are re-uired to change ammonia into a solid itrogen fertilizer accounts for about ne-half of the cost of the production.

roperties of Anhydrous Ammonia

At atmospheric pressure and normal emperatures ammonia is a gas. It xists as a liquid below —28° F. and oils at this temperature. At 50° F. it as a pressure of 75 lbs per square inch. t 100° F. it has a pressure of 197 os. per square inch.

The pressure which anhydrous am-nonia exerts varies with the tempera-ire and may reach 250 lbs. per square nch on hot summer days. This high ressure is not dangerous provided the quipment contains the necessary safe-y devices.

The pressure is about the same as nat of commercial propane, which is sed in flame cultivation and anhy-rous ammonia may be handled in pro-ane equipment. However, butane quipment which is unsatisfactory for ropane use is also unsatisfactory for nhydrous ammonia use. The precau-ons necessary are about the same as those for propane except there is little danger of ammonia catching on fire.

Anhydrous ammonia may be diluted with water and reduced to a 30% ammonia solution, which we commonly refer to as aqua-ammonia. This solution has no pressure except at high temperatures. Ammonia diluted with water and anhydrous ammonia have equal value for crop production provided an equal amount of nitrogen is used from each source.

Anhydrous ammonia weighs 5 lbs. per gallon and contains 82% nitrogen. One gallon of anhydrous ammonia contains 4.1 lb. of nitrogen.

Application of anhydrous ammonia is patented. There are patents on the use of anhydrous ammonia and on equipment for applying it.

Cost Comparisons

At the present retail prices of solid fertilizers anhydrous ammonia is the cheapest form of nitrogen on the market.

Comparative Cost Approximated

	Appx. price per ton	Nitrogen content	Unit cost
Nitrate of soda	64.00	320 (16%)	20.0¢
Cyanamid	69.00	420 (21%)	16.4¢
Ammonium Nitrate (Aeroprills)	105.00	640 (32%)	16.4¢
Anhydrous Ammonia	120.00	1640 (82%)	7.3¢
Ammonium Nitrate	64.00	640 (32%)	10.0¢

Crop Response to Ammonia

When properly applied as a fertilizer ammonia goes into solution in the soil water from which it combines with the clay. While ammonia is on the clay it

(Continued on Page 217)

DIGEST OF OFFICIAL RELEASES

The information printed below has been taken from the official rulings of the U. S. Department of Agriculture. We have quoted the actual determinations and eliminated all explanations, etc., appearing in the official releases.

1948 Puerto Rican Wage Rates. Fair and reasonable wage rates for persons employed in the production, cultivation, or harvesting of sugarcane in Puerto Rico during the calendar year 1948 have been determined by the U. S. Secretary of Agriculture to be as follows:

The basic day rate for the first 8 hours of work performed in any 24-hour period (except that for ditch diggers, ditch cleaners, or field flooders in Class E, the applicable day rate shall be for the first 7 hours of work performed in any 24-hour period) shall be as follows:

Class of Work	Basic rates per day	
	Farms other than interior farms	Interior farms
A. All kinds of work not classified below	$1.50	$1.40
B. Operators of mechanical equipment, such as tractors, trucks, tractor plows	2.35	2.20
Classified nonharvest operations		
C. Cartmen in cultivation work	1.60	1.50
D. Plow steersmen and operators of irrigation pumps, and all work connected with mixing and applying chemical weed killers	1.80	1.65
E. Ditch diggers, ditch cleaners, field flooders (per 7-hour day)	1.80	1.65
Classified harvest operations		
F. Cartmen in harvest work	2.00	1.80
G. Sugarcane cutters (for grinding or planting) seed cutters, crane operators, dumpers	1.80	1.65
H. Portable track handlers, railroad or portable track car loaders	2.00	2.00
I. Cane cart or truck loaders	1.90	1.80

Wage increases. For each 10 cents or fraction thereof that the price of raw sugar (duty paid basis, delivered) averages more than $3.80 per hundred pounds but not more than $7.00 per hundred pounds for the two weeks' period immediately preceding the two weeks' period during which the work is performed, a wage increase of 4.5 cents per day above the wage rates prescribed in subparagraph (1) of this paragraph shall be paid for each day of work during such two weeks' work period; Provided, however, That the wage increase for the period January 1, 1948 through January 18, 1948, shall be based on the average price of raw sugar prevailing during the period December 22, 1947 through January 4, 1948, and thereafter such periods shall be successive periods of two weeks each. If such two weeks' average price exceeds $7.00 per hundred pounds, wage increases in excess of those specified in the preceding sentence shall be at such rates as may be agreed upon between producer and the laborer. The two weeks' average price of raw sugar (duty paid basis, delivered) shall be determined by taking the simple average of the daily domestic "spot" quotations of 96° raw sugar of the New York Coffee and Sugar Exchange, adjusted to a duty paid basis, delivered, by adding to each daily quotation the United States duty prevailing on Cuban raw sugar on that day.

1948 Hawaiian Wage Rates. After appropriate investigation, and due consideration of the evidence submitted at the hearings, the terms and conditions of the 1947 wage determination are considered fair and reasonable for the calendar year 1948.

General discussion of factors. The average number of adult male workers in the Hawaiian sugar industry declined from about 39,500 in 1936 to 22,100 in 1946. Production of hundredweights of sugar per man-day increased substantially during the same period as did grower income, sugar prices and wages. However, the ratios of labor cost to costs of production and returns to producers have remained comparatively constant. During the period from 1941 to 1947, it is estimated that the price paid for food and clothing increased 9 per-cent while in the same period the average earnings per man-day increased 176 percent. In view of these facts, the wage rates already agreed upon are no less than those indicated by the application of customary standards and payment in full thereof will meet the requirements of the Sugar Act.

(Continued on Page 216)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

Favorable weather for field operations has continued throughout the period since our last issue and it is again good to be able to report improvement in the cane crop. We have asked your county agent to give you, and the other readers of *The Sugar Bulletin,* some information concerning the amount of cane lost because of the adverse conditions earlier in the year and have been favored with reports from the following parishes.

Lafourche Parish. A. C. Moreau, in a report dated April 9th, advises us that some plant and stubble canes have been lost in Lafourche Parish and that this has been plowed up. The losses have occurred mostly in low, poorly drained lands. The varieties C.P. 34-120 and C.P. 29-320 seem to have been the hardest hit in the plant canes, with C.O. 290 and C.P. 34-120 suffering most in the stubble crop. Mr. Moreau states that the canes have generally improved during the past few days.

St. Mary Parish. From St. Mary Parish, W. E. Williams reported on April 9th, that there had been very little loss in either plant or stubble canes in his district because of the early bad weather. Some poorly drained, low sections have lost a little cane, however, and C.O. 290 seems to have suffered most. Plant and first year stubble canes are coming out to a fairly satisfactory stand, but much complaint is being heard from the cane farmers about second year stubble growing too slowly. Mr. Williams estimates that field operations are about three weeks. The fertilizer supply is short.

Vermilion Parish. The report from Vermilion Parish is encouraging. J. D. Norbert reports that no plant or stubble cane has been lost and that both crops are up to an average stand. The field operations in his district are about three weeks late.

Pointe Coupee Parish. In a report dated April 11th, A. B. Curet reports from Pointe Coupee Parish that the prospects look good in his district for a fair stand, particularly in the plant and 1st year stubble crops. C.P. 29-320 and other canes have been lost in low spots, however, even where water remained for only a short time.

St. Charles Parish. A. J. Melancon, Jr., states in his report, dated April 10th, that all varieties of cane in St. Charles Parish have been affected if poor drainage exists, especially in the plant canes, where the poorly drained fields are producing only ½ to ¾ of a normal stand. The stubble canes, however, do not seem to have been affected as much as the plant canes by the soggy fields. Mr. Melancon believes that the crop, in his district as a whole, is fair to promising.

Terrebonne Parish. Reporting from Terrebonne Parish on April 12th, Richard Sonnier stated that both the plant and stubble crops were up to a good stand in his district but that the growth of the canes was still small. He says that there has been little loss of cane in his district because of the excessively wet weather earlier in the season and that the few losses that have occurred have been in the low cut where drainage is poor.

—o—

THE MARKETS

(April 13, 1948)

The future market has found it impossible to make any headway since our report on March 29th. Trading has been light throughout the period with prices easing off 4 to 8 points in the near months but advancing 2 to 3 points in the more distant months.

The closing quotations today place May at 4.97, which is 8 points down since March 29th. July is 5.00, down 5 points and September is 5.02, down 4 points. December is 5.00, which is an advance of three points, and March and

(Continued on Page 217)

OFFICIAL RELEASES

(Continued from Page 214)

1948 Price for Virgin Island Sugarcane. After appropriate investigation, and due consideration of evidence submitted at the public hearing, the terms and conditions of the 1947 price determination are deemed fair and reasonable for the 1948 crop of sugarcane with the provision that the weekly average price of raw sugar is to be determined by taking the simple average of the daily domestic "spot" quotations of 96° sugar of the New York Coffee and Sugar Exchange (adjusted to a duty paid basis, delivered, by adding to each daily quotation the United States duty prevailing on Cuban raw sugar on that day).

General discussion of factors. An examination of conditions within the sugar industry in the Virgin Islands indicates that the usual standards cannot be applied. The Virgin Islands Company, under the direction of the Interior Department, is the only purchaser of sugarcane in the Islands. The project was developed and has continued to operate primarily to provide employment to the people of the Islands. The financial results of the operations of the company with respect to sugar have been generally unfavorable, due in large part to small volume and low quality sugarcane. The average loss on sugar operations for the past 5 years has been approximately $86,000 and it is not expected that sugar production will reach a level in 1948 which will yield a profit to the company.

While it is recognized that the producer is subject to the several hazards herein mentioned and that the present sharing of sugar values may not result in individually profitable operations, producers in this area enhance their incomes through employment by the Virgin Islands Company which produces about 70 percent of the annual crop of sugarcane. The present sharing relationship provides returns to producers for low quality sugarcane considerably in excess of returns to producers in other domestic producing areas for similar sugarcane.

1948 Price for Hawaiian Sugarcane. After appropriate investigation and due consideration of the evidence submitted at the public hearings, the terms and conditions of the 1947 price determination are deemed fair and reasonable for the 1948 crop of sugarcane.

An analysis of available data indicates: (1) Payments made for purchased sugar cane in recent years have exceeded payments made for such cane in prewar years and are slightly greater than the increase in gross proceeds of the industry for a similar period, and (2) on the basis of available data the division of gross proceeds between the producer-processor and the producer is approximately the same as the relation between the division of the cost of producing sugarcane and the cost of manufacturing sugar.

1948 Virgin Islands Wage Rates. After appropriate investigation and due consideration of the evidence submitted at the hearing, the terms and conditions of the 1947 wage determination are considered fair and reasonable for the calendar year 1948 with the following changes:

(1) The wage bonus provided in the 1947 determination has been revised to provide for a wage increase of 3.5 cents per day for each increase of 10 cents or fraction thereof in the price of raw sugar for each week in the year rather than for a bonus of 6 cents per day for each 25 cents by which the average sale price of 1947 crop sugar exceeded $5.94 per hundred pounds.

Such wage increases are payable for the week during which work is performed based on the average price prevailing during the immediately preceding week. This change is deemed equitable in that it relates wage payments to sugar prices during a current period and eliminates the necessity of making lump sum retroactive payments the amount of which cannot be ascertained until the crop is sold. The rate of increase in wages is about the same as the relationship existing at the base wage and price level. Since the base wage of $2.00 per 8-hour day is the minimum subsistence wage at prospective levels of prices for foods and clothing, it is not deemed equitable

educe the basic wage should sugar rices average less than $6.00 per hunred pounds.

(2) The weekly average price of raw ugar is to be computed by taking the imple average of the daily domestic spot" quotations of 96° sugar of the New York Coffee and Sugar Exchange adjusted to a duty paid basis, devered, by adding to each daily quotaion the United States duty prevailing n Cuban raw sugar for that day). Average weekly prices will be published y the San Juan Office of the Production and Marketing Administration.

THE MARKETS

(Continued from Page 215)

May are 4.77, which is an advance of two oints for both months since Mch. 29th.

Strikes in several refineries in the East, and the continued poor demand or refined sugar, are given credit for he weakness of actual sugars in the pot position. The sales recorded durng the fifteen day period since our last eport have been as follows: 4,000 tons f Philippines, on March 31st, for July-August shipment at 5.50 to an operator; A Cuba cargo with outport options, on April 2nd, for April shipment t 5.40 to Sucrest; 15,000 bags of Puerto Ricos, on April 2nd, for prompt hipment at 5.40 to Refined Syrups; 5,000 bags of Puerto Ricos, on April nd, for early May loading, at 5.40 to National; 35,000 bags of Puerto Ricos, n April 6th, clearing April 22nd, at .40 to American; A Cuba cargo with utport options, on April 6th, for the st half of May shipment, at 5.38 to Godchaux; 2,000 tons of Philippines, on April 6th, for July-August shipment at .50 to American; 81,000 bags of Puerto Ricos, on April 6th, for the 2nd half of April shipment, at 5.40 to American; 0,000 bags of Puerto Ricos, on April th, for the 1st half of April shipment, t 5.40 to Refined Syrups; 4,000 tons to Philippines, on April 8th, for April-May hipment, at 5.45 to American; 40,000 bags of Puerto Ricos, on April 13th, or the 2nd half of April shipment, at .37 to Imperial; and 7,000 bags of Puerto Ricos, on April 13th, for prompt hipment, at 5.37 to Refined Syrups.

MR. OLIVER LYE'S LATEST BOOK

The American Sugar Cane League has received from Mr. Dan Gutleben, 530 Gonzales Drive, San Francisco, California, with his compliments, a copy of the latest edition of "Technology for Sugar Refinery Workers", by Mr. Oliver Lyle, who is the Managing Director of the Tate & Lyle, Ltd., Plaiston Wharf, London E 16, England. The volume contains 93 illustrations and ranks very high indeed in informative value and dependability. Anyone desiring to consult it may do so at the League office.

YOUR COUNTY AGENT

(Continued from Page 213)

does not leach out of the soil; however, it comes off of the clay particles sufficiently rapid to supply crops with nitrogen.

Young corn and cotton plants prefer ammonia nitrogen to nitrate nitrogen, and they grow off more rapidly when ammonia nitrogen is applied before planting than when nitrate nitrogen is applied before planting. Older plants prefer nitrate nitrogen. When only nitrogen is considered, per-planting application of ammonia to supply young plants with ammonia, which later is changed to nitrate for the older plant, is ideal. I don't think we have had enough experience with anhydrous ammonia in cane to make this determination.

When crops are exposed to the fumes of ammonia the leaves are killed. However, the buds are usually not affected and growth continues. Young cotton plants are killed outright by the fumes of ammonia. In side dressing with ammonia it should be applied and covered in such a manner that crops are not exposed to fumes.

It is desirable that ammonia be applied where it is to stay. After ammonia has been in the soil for about 4 days it should be fixed so that no loss of nitrogen occurs in plowing if the ammonia is applied about 6 inches deep and the cultivation is shallow and does not disturb the ammonia band.

Mississippi Results

In 1943 the Mississippi Experiment Station began to experiment with anhydrous ammonia on cotton, corn, and oats. They found that the best depth to apply anhydrous ammonia was 6 inches. They also found that when you applied an equal amount of nitrogen from anhydrous ammonia as that of ammonium nitrate or other solid fertilizers crops responded equally as well.

According to the Mississippi State College Agricultural Experiment Station report in bulletin 448, in 12 tests with cotton where ammonia, and ammonium nitrate were applied side by side, 62 times, at a depth of 4 inches before planting, ammonium nitrate increased the yield 305 lbs. of seed cotton per acre and ammonia increased the yield 386 lbs. per acre.

When the anhydrous ammonia was applied at a depth of 6 inches, the yield was increased 424 lbs. of seed cotton per acre. Data collected at the Stoneville Station indicated that the 6 inch depth was superior to a 4 inch depth application.

In one other test where the soil was in such a poor physical condition that the ammonia could not be completely sealed at the 4 inch depth ammonia was inferior to ammonium nitrate. However, the 6 inch depth application of ammonia was superior to ammonium nitrate.

In 7 tests with cotton conducted in cooperation with the Delta Branch Experiment Station, the yield of seed cotton was 2091 lbs. per acre from ammonium nitrate and 2046 lbs. per acre from anhydrous ammonia. These data show that ammonium nitrate produced slightly more seed cotton than anhydrous ammonia. However, the variations in the yield of cotton obtained were such as to suggest that there was no difference in the efficiency of these two sources of nitrogen in the tests.

When nitrogen was applied as a side dressing to cotton the following yields were obtained in the 12 tests which contained 62 side-by-side comparisons.

Source of nitrogen	Increase pounds seed cotton per acre
Ammonia, 4" deep	330
Ammonium nitrate, 4" deep	350
Ammonium nitrate, surface	348

These tests were conducted in 194 and 1946 when rainfall was ample.

In 1944 when dry weather prevaile ammonia applied 5 inches deep as side dressing was much superior to su face ammonium nitrate in most test and a large number of tests were co ducted. The difference in favor ammonia in the side dressing exper ments on the dry year is attributed depth in placement.

Response of Corn to Anhydrous Ammonia and Ammonium Nitrate

When anhydrous ammonia and an monium nitrate were compared in tests the following data were obtaine

Source of nitrogen	Depth of application	Increase o yield, bush per acre
Anhydrous ammonia	4"	15.4
Ammonium nitrate	4"	13.7
Ammonium nitrate	surface	12.8

The above data on corn were co lected in 1945 and 1946 when rainfa was excessive.

In 1944, when rainfall was very lo anhydrous ammonia applied at a dept of approximately 5 inches, usually ga much greater increases in yield tha ammonium nitrate applied on the su face. The ammonia was applied in t root zone where it was available to t plants, while the ammonium nitrate a plied on the surface was unavailab until rain carried it into the root zon On the basis of the data presented, is reasonable to conclude that ammon as a source of nitrogen is at least good as ammonium nitrate.

Where depth of placement and un formity of application are factors crop production, ammonia has adva tage over ammonium nitrate and oth solid nitrogen fertilizers.

Response of Oats to Anhydrous Ammonia

Top dressing small grains with an monia presents problems which are n present in row crop fertilization. Fa planted oats apparently use nitrate an ammonia nitrogen equally well in t fall. However, in the spring nitroge applied as ammonia must be change into nitrate nitrogen before it is use by oats.

The acidity of the soil as measure by pH is closely associated with ra

nitrification. Nitrification was found be slow in soils with a pH of 5.1 or s, and rapid in soils with a pH of or higher. In soils of pH 5.1 or ver the rate of nitrification was slow d fall applied ammonia was retained the soil through the winter, and ve larger yields than spring applied monium nitrate. In soils with a pH 5.5 or higher the rate of nitrification s rapid and part of the fall applied monia was changed to nitrate nitro- n and was leached out before spring, d lower yields were produced from monia applied in the fall than from ing applied ammonium nitrate.

On one soil with a pH of 4.95 the lowing data on oats were obtained.

rce of nitrogen	Time of application	Increase of yield-bu. oats per acre
monia	October	28.9
monia	January	30.2
monia nitrate	March	26.8

On this soil October and January re satisfactory dates for applying am- nia.

On one soil with a pH of 5.1 the fol- ving data on oats were obtained:

rce of nitrogen	Time of application	Increase of yield-bu. oats per acre
monia	March	18.5
monia nitrate	March	19.6
monia	October	10.4

The March application of ammonia this soil was too late for the am- nia to be changed over to nitrates time for oats to make maximum use the nitrogen.

On a soil with a pH of 7.8 the fol- ving data on oats were obtained:

rce of nitrogen	Time of application	Increase of yield-bu. oats per acre
monia	October	8.5
monia	March	25.1
monia nitrate	March	23.9

The ammonia was changed to nitrate rogen rapidly on this soil and March plication was satisfactory. The fall plication of ammonia was unsatis- tory.

More data are needed on the fer- ization of oats with ammonia. How- er, the data presented suggest that monia should be applied to soils th a pH of 5.1 or less before Febru- y, and that on soils with a pH eater than 5.1 ammonia should be ap- ed after February 1.

Ammonia was applied in bands of 15 or 16 inches apart and about 5 inches deep in the above tests. Some data are available which indicate that a wider spacing is satisfactory; however, more data are needed.

Ammonia is superior to ammonia nitrate for fall application to oats planted for grain production.

The unused nitrogen from ammonia is retained for spring growth to a much greater extent than if the nitrogen were ammonium nitrate.

Ammonia was equal to ammonium nitrate on oats planted in the fall for grazing. The data show little difference between anhydrous ammonia and ammonium nitrate for the production of forage by fall planted oats. However, they do show that high rates of nitrogen are essential.

We do not have much highly acid lands in Iberia Parish. Most of it are lands between 5.5 and 7 pH. Therefore, it is reasonable to expect that ammonia nitrogen will change to nitrate nitrogen rather rapidly here in this parish, so it appears to me that we will have to use anhydrous ammonia as a side dress-

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1—Steel Pinion 11T—4″ Pitch 12″ Face 9″ Bore.

1—Allis-Chalmers 2½″ 2 Stage 100 GPM 300 ft. head. 3,000 RPM Centrifugal Pump.

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1—Steel Pinion 17T 4½″ Pitch 16″ Face 11″ Bore.

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ing on cane. However, we may be abl to use it in pre-planting of corn.

I feel that farmers going into the us of anydrous ammonia should know th pH of their soil as it seems that ther is a direct relation between the acidit of the soil and the leaching of nitroge from anhydrous ammonia.

The Outlook for the Supply

There are a number of concern manufacturing anhydrous ammonia a the present time. The supply seems t be fairly plentiful but storage is the bi problem. Plants manufacturing anhy drous ammonia must move it awa from the plant as rapidly as it is manu factured. They operate on a 12 month basis. Therefore, they must have a 1 months outlet as it is too expensive t store it 9 months for a sale season o 3 or 4 months.

If it comes into general use in th sugar belt there will probably be a fa supply provided storage facilities ar available for accepting the plants ou put on a monthly basis.

Anhydrous ammonia is manufacture by several oil companies and chemica companies such as the Spencer Chem cal Co., Lion Oil Co., Commercial So vent, Dupont, Shell Oil Co., and other

At the present time the followin concerns are handling, or plan t handle, anhydrous ammonia and equip ment for applying it.

- Louisiana Agricultural Coop., Inc Baton Rouge, La.
- Rex Nitrogen and Gas Co., Leland Miss.
- Bayou Gas and Appliance Co., Na poleonville, La.
- Vacherie Fuel Corp., Vacherie, La.
- Acadia Cotton Oil Co., Acadia, La.
- Holiger Gas Co., Inc., Shrevepor La.
- Ralph W. Wieson, Inc., Franklinto La.
- A. R. Blossman, Inc., Covington, L
- Farm Service, Inc., Opelousas, La.
- Liquid Fertilizer Nitrogen and Equip ment Co., Jeanerette, La.

There may be others that I don know about at this time.

If a farmer provides his own storag he can buy anhydrous ammonia i carload lots at around $95.00 to $100.0

ton which makes his nitrogen cost n about 6¢ per lb. If he does not ovide his own storage the retail price anhydrous ammonia is around 20.00 a ton which makes his nitrogen st him 7.3¢ per lb.

The equipment needed to apply an-drous ammonia, that is a field tank d tractor tank with applicators, will st in the neighborhood of $1000.00.

Conclusion

In conclusion may I call to your at-ntion the fact that during the period September 1, 1945 to August 31, 46 Louisiana farmers used:

Nitrate of soda	36,333 tons
Ammonium nitrate	14,534 tons
Cyanamid	20,873 tons

If the nitrogen obtained from these urces would have been replaced by equivalent amount of anhydrous mmonia it would have saved Louisi-a farmers over 2 million dollars.

According to an analysis of our fer-zer situation with respect to our soils hich was made by Mr. R. A. Wasson, r Extension Agronomist, the amount nitrogen needed in Louisiana should increased 3 times what we are pres-tly using. Thus, you can readily see e savings possible.

This analysis also shows that we ould double the use of phosphoric id and use 4 times as much potash as are now using.

Of course, this analysis takes into nsideration the rapid depletion of our nds and the necessary amount of ant foods to bring them back and oduce abundant crops.

References from which most of this formation was taken are:

Mississippi Experiment Station Bulle-n #448.

Information on anhydrous ammonia epared by G. J. Durbin, Former As-ciate Farm Management Specialist, Now Associate Editor), and Mansel .. Mayeux, Assistant Extension En-neer, both of the LSU Agricultural xtension Service.

*A talk delivered at a meeting of the ouisiana Sugar Producers Club, West-n Division, New Iberia, Louisiana, pril 2, 1948.

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RECOMMENDATIONS

(Continued from Page 212)

width of swath should not be over 3 feet.

The cost of dusting for second-gene ation borers is about the same as fo first-generation borers and, if done b ground equipment, the time require for making an application is somewha longer.

Sodium Fluosilicate

Sodium fluosilicate is not recom mended for borer control. A dust cor taining 50 percent of this material ha given as good control as has cryolit on first-generation borers, but it cause some burning of foliage. Although th effect of such burning is not apparen at harvestime, the use of sodium fluo silicate against first-generation borer appears undesirable. It has not give good control and should not be use against second-generation borers.

Newer Materials

Ryania has consistently shown suf ficient promise to warrant further ex perimental field trials. Benzene hexa chloride, chlordane, DDT, and para thion appear to be unsafe for use o sugarcane. In some instances the ap plication of these insecticides has re sulted in an increase rather than decrease in borer infestation because o their detrimental effect on the natura enemies of the borer or for other rea sons. Chlorinated camphene has no given good borer control in all cases and there have been some instances o borer build-up following its use. How ever, it has shown sufficient promise t justify further small scale testing.

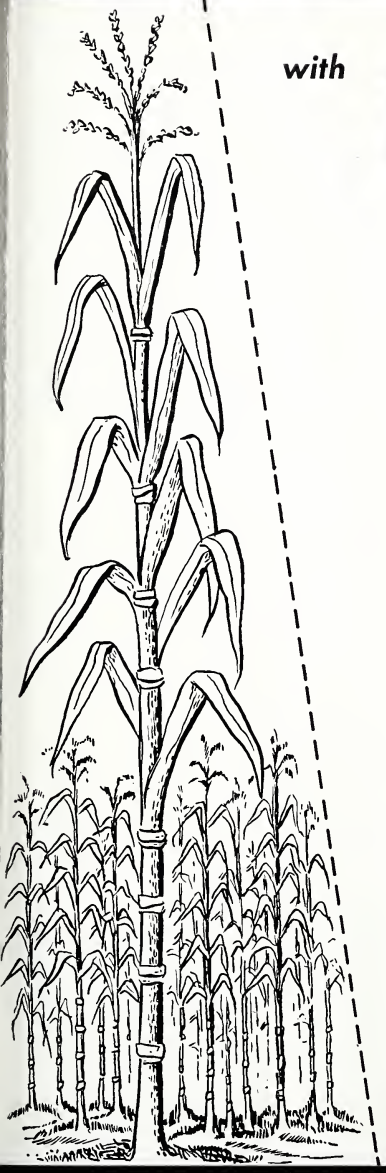
[1] These recommendations were prepared jointly by th Louisiana Agricultural Experiment Station and the Bures of Entomology and Plant Quarantine of the Agricultur Research Administration, United States Department Agriculture.

IN WASHINGTON

(Continued from Page 211)

ingness of the fertilizer people to mak available the maximum quantity of ni trogen fertilizer, officials of the Leagu have justifiable reasons for confidenc that their efforts will make sure tha every ton of all types of fertilize available for delivery to sugarcan growers has or will be delivered in tim for application on the 1948 crop.

CONTROL THE BORER



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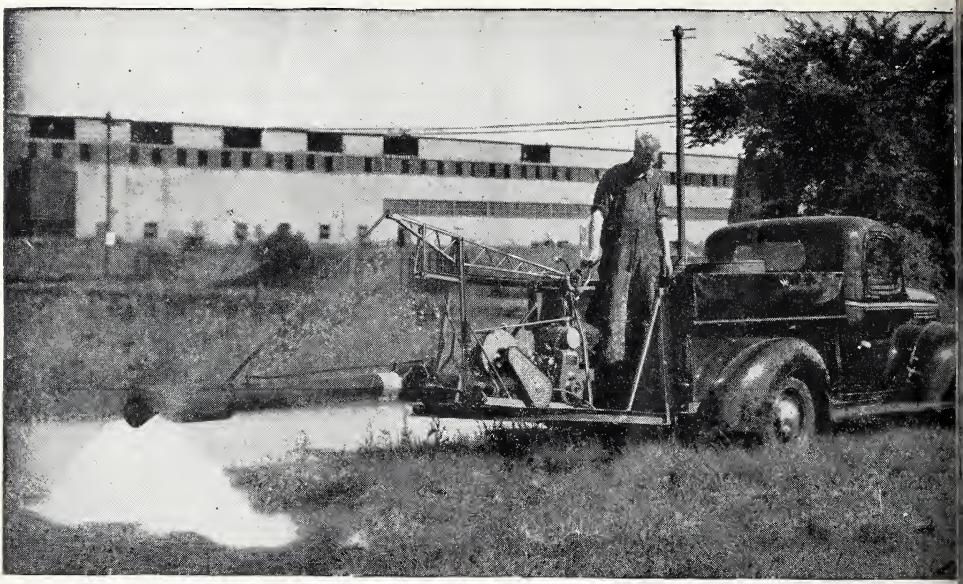

The above picture shows the Model "A" mounted on circular track which, in tu is bolted to truck body floor for straight-away burning. When so mounted the bu er unit can be swung through an arc of 180 degrees by the operator. The lo picture with the same mounting shows the burned set at an angle with a spe burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a den high velocity, intensely hot flame which sears green vegetation quickly. Under av age conditions the first trip can be made at about 8 m.p.h. and the second trip, wh should be made from 2 to 10 days later after the sun has dried the vegetation, speed may be much faster—10 to 15 m.p.h.

The Model "A" burning a swath 5 feet wide at 8 m.p.h. consumes 8 gallons of f oil per mile. At 5c per gallon the cost would be 40c. Burning one acre at the sa speed consumes 13 gallons of fuel oil; at 5c per gallon the cost would be 65c.

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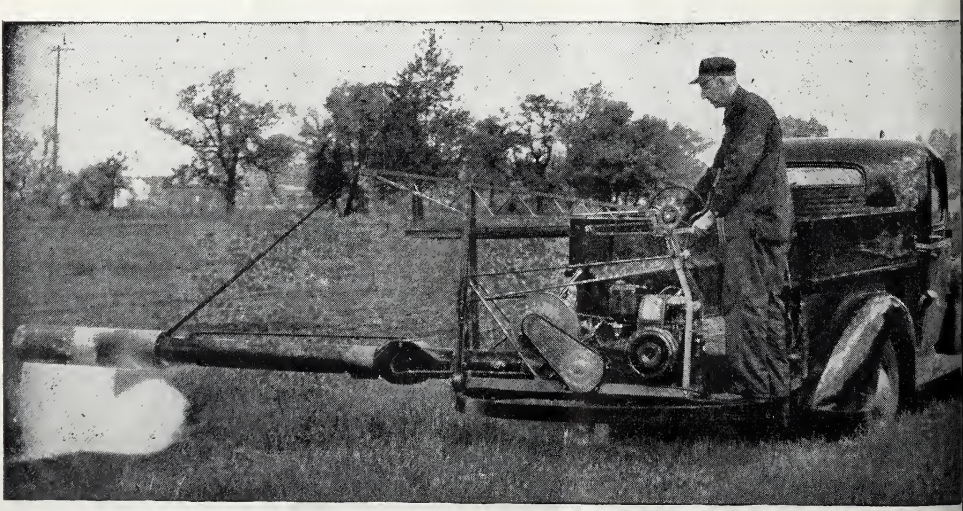

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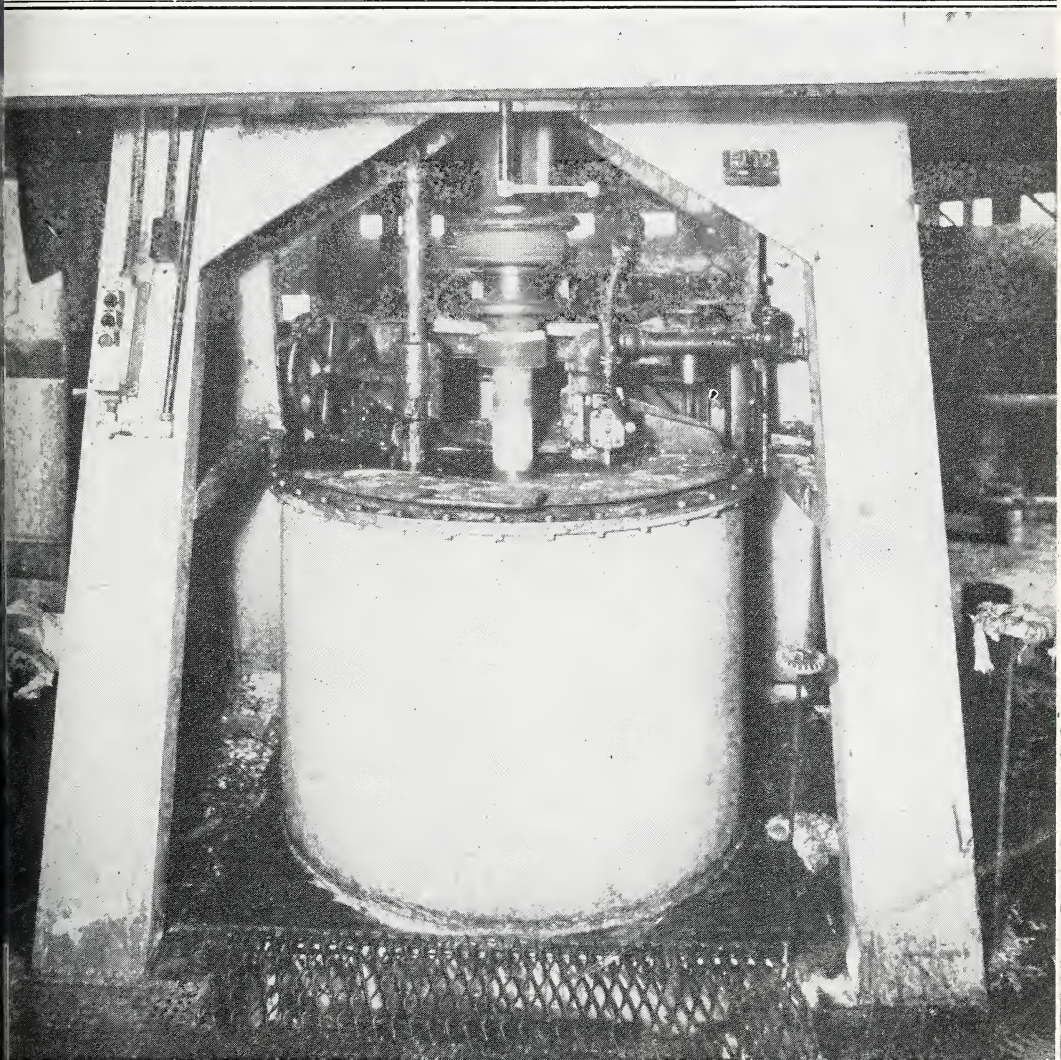

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THE
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414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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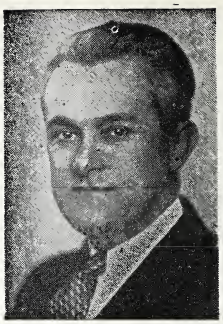
IN WASHINGTON WITH C. J. BOURG



Printed below is the new setup of the Sugar Branch which was contained in a letter by Lawrence Meyer, Director, dated April 25th.

To adapt our organization better to the peace-time administration of the Sugar Act, the Sugar Branch was recently reorganized into five divisions. Three of these divisions are concerned with the administration of the Sugar Act, another is assigned responsibility for the administration and eventual liquidation of our emergency sugar programs under Commodity Credit Corporation, while the fifth is assigned duties in connection with research and statistics. Listed below are the names of the Divisions and the specific responsibilities assigned to each:

Quota and Allotment Division

Responsible for the administration of Title II of the Sugar Act, including the preparation of estimates of consumption requirements in the United States; operation of sugar quotas; the revision of quotas or recommendation for the suspension of such quotas in accordance with changes in consumption and marketing prospects; the determination of the need for and the recommendations concerning marketing allotments in domestic sugar areas; and the conduct of, or participation in, such public hearings as are required in connection with the administration of Title II.

Wage and Price Division

Responsible for the administration of those parts of Title III of the Sugar Act which concern wage and price determinations issued by the Secretary of Agriculture, including recommendations as to fair and reasonable wages and prices to be paid in domestic sug areas; the planning and conduct of wa and price surveys and investigation the issuance of recommendations und Section 409, Title IV, concerning tern and conditions of contracts betwe laborers and producers and betwe producers and processors; and the co duct of such public hearings as are r quired in connection with wage a price matters.

Conditional Payments Division

Responsible for the administration those provisions of Title III of t Sugar Act which concern condition payments to sugarcane and sugar-be growers, including the development determinations with respect to propo tionate shares for sugar-beet and suga cane farms; the conduct of such publ hearings as may be required in co nection therewith; the development special determinations required to e tablish eligibility for and the amount payments to producers; the develo ment of forms, procedures, and instru tions required by the field offices of t Production and Marketing Administr tion in determining performance and completing conditional payments; pr viding technical assistance to such c fices; and the administration of t child labor provisions of the Act.

Commodity Credit Corporation Programs Division

Responsible for the administrati and eventual liquidation of all sug

(Continued on Page 232)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

In this issue we are again able to report some encouraging news about the cane crop thanks to the continued good weather and the very fine co-operation of the county agents. These gentlemen are making it possible for us to let you follow the progress of the crop from week to week in all sections of the sugar belt, and we feel quite sure that the readers of *The Sugar Bulletin* join with us in expressing appreciation of their services.

Some of the reports below were sent in for the April 15th issue but we had to go to press before they were received and are, therefore, including them in this issue.

St. Landry Parish. A. K. Smith, Jr., advised us on April 24th that the cane crop in his district was late, but improving fast. C. P. 36-105 seems to have come up to a stand faster than any other variety. Field work has been done as needed, thanks to the favorable weather. Nitrogen fertilizer is scarce and will probably not arrive until sometime in May, if it does then.

Iberia Parish. From Iberia Parish, W. E. Williams reports on April 24th that the cane crop is showing up well in his Parish with both the plant and first year stubble crops coming up to a fairly satisfactory stand. He says, however, that quite a bit of second year stubble will be plowed up due to poor stands. Farmers are making good time in the fertilization and cultivation of the canes. Recent rains have been very beneficial to the crop. The corn is looking good and so are the cotton and rice crops. Johnson grass looms as a major pest in the cane fields in Iberia Parish and a good many farmers have started an eradication program. Alligator grass is being controlled in the cane fields by the use of 2-4-D.

Lafourche Parish. The cane crop is very much improved in Lafourche Parish, according to a report from A. C. Moreau, dated April 24th. Much work has been done in the fields during the past few weeks. The corn crop is also looking good. The fertilizer shortage in Lafourche Parish is still critical.

St. Charles Parish. A. J. Melancon, Jr., mailed his report from St. Charles Parish on April 26th. He reports that the cane crop is in good shape in his district although some of the plant cane stands are light in poorly drained fields. The stubble looks promising. Most of the farmers have nearly completed applying fertilizer but a few have complained about not having enough to properly fertilize their crops.

Pointe Coupee Parish. Reporting from New Roads on April 26th, A. B. Curet advised that the cane crop in his district seems to be promising. He states that, while the growth may be considered somewhat behind normal for this time of the year, stands are generally good and conditions encouraging.

Ascension Parish. On April 13th E. S. Landry advised us that no cane had been lost in Ascension Parish because of the early adverse weather and that the crop generally was showing improvement and making progress. He stated at that time that the fertilizer situation was still critical but we hope that his condition has improved since the report was mailed.

St. Mary Parish. P. J. deGravelles advised us on April 14th that a small amount of cane, mostly Co. 290 and C. P. 34-120 has been lost in St. Mary Parish because of the early bad weather. He reports, however, that the crop is clean and well cultivated and looking about normal for this time of the year.

Avoyelles Parish. No plant or stubble cane has been lost in Avoyelles Parish, according to a report from Kermit J. Ducote dated April 14th, although the C. P. 29-320 variety seems

(Continued on Page 232)

TEST OF CYANAMID FOR KILLING SUGARCANE FOLIAGE IN ADVANCE OF HARVEST

By George Arceneaux, Senior Agronomist, and Lester G. Davidson, Associate Chemist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture

Detrashing of sugar cane by burning is now considered standard practice in Louisiana. Ordinarily the cut cane must remain in the field several days before the foliage becomes sufficiently dry to burn well. The practice has proved reasonably satisfactory under dry conditions, but in case of rain the cane may have to be held over for prolonged periods or sent to the factory in a trashy condition. Therefore the harvest operation would be greatly simplified if some satisfactory means could be found of inducing the foliage to dry out sufficiently to permit burning while the cane is still standing. This report briefly summarizes results of preliminary studies on the use of cyanamid dust a a means of killing sugar cane foliag prior to cutting.

On the night of October 13, 194 applications of finely pulverized cyana mid were made by airplane on differ ent blocks of a field of Co. 290 o Southdown Plantation at the followin rates per acre (pounds): 30; 60; 90 Check (no treatment). Each block con sisted of one "cut" of approximatel 1½ acres. Untreated "cuts" betwee experimental blocks served as buffers The identical treatments were repeate on a nearby field of C. P. 29/320.

Effects of the dusting on sugar can foliage were, on the whole, disappoint

TABLE 1. Effect of foliage applications of cyanamid dust at different rates per acre on sucrose accumulatio and other changes in juice composition.

Date of sampling	Tests of Co. 290 Rate of application (pounds)				Tests of C. P. 29/320 Rate of application (pounds)			
	0 (Check)	30	60	90	0 (Check)	30	60	90
				Sucrose percent crusher juice (Pol.)				
Oct. 15	10.66	9.94	10.47	11.30	14.28	14.16	14.51	14.93
Oct. 21	10.18	9.77	10.17	10.26	14.94	14.02	13.70	13.79
Oct. 28	10.87	10.28	10.01	10.66	14.49	14.51	13.68	13.63
Nov. 4	12.09	10.11	10.05	10.69	15.11	14.50	14.28	14.39
Nov. 11	12.02	10.45	10.63	11.29	15.50	14.46	13.90	14.70
				Brix of crusher juice				
Oct. 15	14.34	14.03	14.33	14.69	17.22	17.29	17.69	17.27
Oct. 21	13.84	13.58	13.82	13.67	17.39	17.04	16.69	16.42
Oct. 28	14.69	14.11	12.97	14.11	17.88	17.55	16.82	16.46
Nov. 4	15.29	14.06	13.74	13.99	17.79	17.51	17.22	17.01
Nov. 11	15.62	14.36	14.06	14.52	17.99	17.39	16.82	17.46
				Apparent purity of crusher juice				
Oct. 15	74.34	70.85	73.06	76.92	82.93	81.90	82.02	86.45
Oct. 21	73.55	71.94	73.59	75.05	85.91	82.28	82.08	83.98
Oct. 28	74.00	72.86	77.18	75.55	81.04	82.68	81.33	82.81
Nov. 4	79.07	71.91	73.14	76.41	84.94	82.81	82.93	84.60
Nov. 11	76.95	72.77	75.60	77.75	86.16	83.15	82.64	84.19
				Invert sugars percent crusher juice				
Oct. 15	1.81	2.09	1.85	1.46	0.88	0.92	0.88	0.88
Oct. 21	1.98	2.07	1.86	1.47	0.90	1.04	1.04	0.94
Oct. 28	1.80	1.63	1.73	1.75	0.73	0.93	1.04	0.92
Nov. 4	*	*	*	*	*	*	*	*
Nov. 11	1.63	1.87	1.80	1.36	0.77	0.94	1.10	0.80
				Indicated yield of 96° sugar per ton of cane (pounds)‡				
Oct. 15	148.1	133.8	143.9	160.4	195.6	192.7	197.6	209.0
Oct. 21	140.5	132.9	140.4	143.4	208.5	191.2	186.6	190.2
Oct. 28	150.6	141.0	142.4	149.7	196.0	198.5	185.4	186.6
Nov. 4	174.4	137.4	138.2	151.1	209.6	198.5	195.6	199.2
Nov. 11	170.7	143.2	149.3	161.3	216.6	198.4	190.1	203.0

* Not determined.

‡ Winter-Carp-Geerligs formula, simplified, assuming varietal milling factors as per Arceneaux, G., Sugar Bulletin Vol. 23, No. 21, pp. 186-191, August 1, 1945.

ing. Blades of the fully exposed topmost leaves were severely scorched by the treatment and dried up rather promptly. But the great bulk of the remaining green foliage showed only minor injury or no apparent effect from the treatment. There was a perceptible increase in extent of leaf damage with an increase in rate of dusting but even at the highest rate the treatment did not greatly improve the condition of the trash for burning.

In order to determine the possible effect of the various treatments on subsequent accumulation of sucrose and other changes in the composition of the sugar cane juice, all the cane in the experiment was allowed to stand for a period of approximately 1 month. Table 1 gives results of analyses of juice from samples of cane taken at weekly intervals from each of the treatment blocks over the period October 15 to November 11, inclusive. Each value shown is the average of 3 analyses of juice from separate samples of 25 stalks each. The samples of sugar cane were crushed by means of a 3-roller mill which gave an average juice extraction of 63.2% in the case of Co. 290, and 58.3% in the case of C. P. 29/320. There was no significant difference in rate of juice extraction at any time between treated and untreated cane. Table 2 gives a summary of data presented in Table 1.

In the course of 4 weeks juice of untreated cane showed substantial gains in sucrose content (Pol.), Brix, and purity. Corresponding changes in the case of dusted cane ranged from slight increases to slight decreases. Untreated plots showed an average indicated gain of 21.8 pounds of sugar per ton of cane, as compared with an average indicated gain of 7.5 pounds in the case of plots dusted at the 30-pound rate, and slight apparent losses in the case of plots dusted at the rates of 60 and 90 pounds per acre, respectively.

Within limits of ordinary experimental variations, trends as summarized above were reasonably well maintained from date to date with each of the two varieties tested.

The percentage of invert sugars in sugar cane ordinarily decreases as maturity advances. Results shown in tables 1 and 2 are not sufficiently consistent to indicate a clearly significant interference with this process as a result of dusting but it is interesting to note that dusted plots, on the average, showed a somewhat lesser decrease in invert sugar content than was observed with the controls.

In translating results of this research to terms of ordinary procedure it must of course be recognized that sugarcane in the experiment was subjected to the effects of the treatment over a much longer period of time than would be commonly required in the practical utilization of a leaf killing agent for preharvest burning. With a treatment as effective as a killing freeze for instance, the trash should ordinarily reach a stage of dehydration permitting satisfactory burning within 5 to 8 days. In this experiment untreated cane gained 21.6 pounds of recoverable sugar per ton over a period of 27 days, or an average gain of 0.8 pound per day. Eliminating such a gain over a period of 5 to 8 days would involve a sacrifice of 4 to 6 pounds of sugar per ton of cane.

In addition there is reasonably good evidence that the harmful effects of the treatment increased with an increase in severity of leaf damage. Therefore, a treatment causing enough damage to the foliage of standing cane to permit

(Continued on Page 238)

TABLE 2. Effect of foliage applications of cyanamid dust on sucrose accumulation and other changes in crusher-juice composition between October 15 and November 11, 1943.

Rate of cyanamid dust application per acre (pounds)	Increase (+) or decrease (—) between Oct. 15 and Nov. 11 (Average of two varieties)				
	Percent sucrose	Brix	Apparent purity	Percent invert sugars	Indicated yield of 96° sugar per ton of cane (pounds)
0 (Check)	+1.29	+1.02	+2.92	—0.14	+21.8
30	+0.40	+0.21	+1.58	—0.10	+ 7.5
60	—0.22	—0.57	+1.58	+0.08	— 1.0
90	—0.12	+0.01	—0.71	—0.09	— 2.5

SUPPLY OF FERTILIZER ASSURED THROUGH LEAGUE EFFORTS

The American Sugar Cane League is happy to be able to report that the Louisiana cane farmers are scheduled to receive most of the fertilizer they need for the present cane crop. Assurance of this has been given to the League and a picture that looked very dark a month ago has been changed materially by the concerted efforts of your organization.

The story of the battle for fertilizer is a story of action—action and cooperation. Action by your League, headed by Murphy J. Foster, its President, and cooperation by your Senators, your Congressmen, your Government, your County Agents and last, but not least, by the fertilizer men themselves.

When it became apparent that the fertilizer manufacturers and distributors were having trouble meeting their committments in the Louisiana sugar district because of circumstances beyond their control, Mr. Foster flew to Washington to see what could be done to relieve the situation. He and Clarence J. Bourg, your Washington representative ably assisted by Congressman Jimmi Domengeaux, went right to work. The called on the Sugar Branch, the Fer tilizer Branch, and the Secretary c Agriculture. They solicited and receive the support of Senator John H. Over ton, Senator Allen J. Ellender, Con gressman Hale Boggs, Congressma James Morrison, Congressman Henr D. Larcade and Congressman Edwar F. Hebert. They convinced everybod concerned that the Louisiana sugar can farmers had to have fertilizer, and the received the assurance of everybody cor cerned that the Louisiana sugar distric would get some fertilizer.

Your fertilizer dealer will probably b in a position shortly to supply your fer tilizer requirements. KEEP IN TOUCH WITH HIM.

IN WASHINGTON

(Continued from Page 229)

programs authorized and carried on by Commodity Credit Corporation, including the procurement and sale of sugar; price support of domestic sugarcane and sugar beets; and the development and administration of such emergency procurement and distribution programs as have been or may be authorized.

Research and Analysis Division

Responsible for the conduct of research required for the efficient operation of our sugar programs as well as specific research authorized under the Research and Marketing Act of 1946; the collection, assembly and analysis of sugar and related statistics required by the Department; and collaboration with the Quota and Allotment Division in the development of data for use by that Division in estimating the level of sugar consumption required in the Continental United States.

The principal officials of the Sugar Branch are as follows:

Lawrence Myers, Director; J. T. E vove, Assistant Director; G. A. Dic Assistant Director; I. L. Rice, Speci Assistant to the Director; H. G. Folke Acting Chief, Quota and Allotment D vision; T. H. Allen, Chief, Wage an Price Division; A. A. Greenwood, Chie Conditional Payments Division; C. W Fowler, Chief, Commodity Credit Co poration Programs Division; Miss Jess L. Carter, Acting Chief, Research an Analysis Division; Joshua Bernhard Consultant.

CROP NEWS

(Continued from Page 229)

to have suffered a little during th early bad weather. On April 14t stubble appeared to be about thirt days behind in its development, bu plant cane was in the best growing con dition that the Parish has ever know

St. James Parish. Joseph Lamar dola mailed his report from St. Jame Parish on April 14th. He stated tha

(Continued on Page 235)

A METHOD OF MEASURING THE QUANTITY OF VIABLE JOHNSON GRASS SEED IN THE SOIL

By Leo P. Hebert, Assistant Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture

Eradication of Johnson grass presents a two-fold problem, viz: (1) the destruction of established plants and (2) prevention of reinfestation from seedlings. Fallow plowing under appropriate conditions may be expected to dispose of the bulk of the rhizomes within one or, at the most, two years. After that, possibility of reinfestation from seedlings is the important consideration, therefore there is need of a method whereby the quantity of viable seed remaining in the soil may be accurately and quickly determined. This report briefly summarizes some of the results obtained with a method which seems to offer considerable promise in this connection.

A field heavily infested with Johnson grass on St. Delphine Plantation near Plaquemine which had been under fallow plowing for approximately 2 months was sampled in the following manner: At each of 9 locations, 4 borings were made with an 8-inch auger to include each of the following soil layers separately—1-6 inches; 6-12 inches; 12-18 inches. The four samples of each layer at each station were composited for germination tests.

The 27 separate samples of soil were brought to Houma and placed in flats in the greenhouse and kept moist for a period of 43 days at maximum temperatures ranging from 105° to 115° F. Table 1 gives average germination counts by layer and by period during the 43 days. At the end of each of the 5 periods specified in the table all Johnson grass plants were pulled, origin of each verified (seed or rhizome) and number of seedlings noted. With a little experience there is no difficulty in identifying seedlings of Johnson grass.

As shown in table 1 each composite sample of soil covered an area of 201 square inches. In the total of the 3 layers such a sample gave an average germination of 56.3 seedlings or, based upon the total of 1809 square inches of soil sampled, the equivalent of 1,756,963 seedlings per acre.

TABLE 1

Germination of Johnson grass seed from different depths below the soil surface. Samples taken on St. Delphine Plantation May 29, 1947. Germination period May 29-July 10, 1947. Greenhouse temperature, daytime high 105-115° F. No record of minimum temperature.

Period of germination (days after planting)	Number of germinating plants from sample area of 201 square inches—Average of 9 soil samples			
	From layer 0-6 inches below surface	From layer 6-12 inches below surface	From layer 12-18 inches below surface	3 layers (0-18 inches) below surface
0–11	1.6*	10.4	6.4	18.4‡
12–18	.9	10.0	8.2	19.1
19–27	.3	6.6	9.4	16.3
28–35	.1	.7	.8	1.6
36–43	0	.2	.7	.9
Total	2.9§	27.9	25.5	56.3

*Standard error of this and comparable mean values +−1.68
‡Standard error of this and comparable mean values +−2.91
§Standard error of this and comparable mean values +−5.99

It will be noted that the great bulk of seedlings came from depths of more than 6 inches. Many of the seeds at lesser depths had no doubt already germinated. The importance of deep plowing during the fallow period to expose deeply buried seed and accelerate germination is clearly indicated.

Soil samples from the 0-6 and the 6-12-inch layers gave the highest germination during the first period whereas the sample from the 12-18-inch layer gave the highest germination in the third period (from 19th to 27th day). This suggests a certain degree of dormancy among deeply buried seeds. To what extent this may be a factor in prolonging the period of soil contamination from buried seed remains to be determined. Samples of soils used in this series of tests have been preserved

(Continued on Page 236)

MOLASSES SILAGE REPORT ISSUED

Sugar Research Foundation has announced the publication of the fourth number in the Technological Report Series, "Use of Molasses in Grass Silage Preparation." The review was prepared by Carl B. Bender, Professor of Animal Husbandry at Rutgers University, New Brunswick, New Jersey, and describes the practical investigations conducted to obtain a high-nutrient animal feed.

During the current period of widespread food shortages, increased attention is being focussed upon the yield per acre of the various food products. The commercial sugar-bearing plants, the sugar cane and sugar beet, lead all other food plants by a very wide margin. On the average, only 0.15 acre of land is necessary for production of one million calories of food by these plants. In particular areas the yield runs much higher.

All animal food products such as eggs, meat and milk require a far greater land area for the production of quantities equivalent in food energy. Milk, for example, requires approximately 2.8 acres of land or nineteen times the area for production of a million calories.

Because of its particularly great nutritional value in terms of balanced protein, calcium, fat soluble vitamins and vitamins also of the B complex, it is important nevertheless not only to maintain but to increase available milk supplies despite the relatively uneconomic land requirement of this food.

Consequently, it is expedient to exploit those feed materials that are not suitable for direct human consumption for milk production. Among these may be listed the terminal molasses from beet and cane sugar production.

One of the most advantageous methods of using such molasses in the feeding of dairy cattle is by the preparation of grass or alfalfa silage. The addition of molasses to such silo materials greatly promotes the formation of lactic acid and when used in proper ratios also represses the undesirable formation of butyric acid. Repeated feeding experiments have demonstrated the value of such silage in winter feeding of milch cows for maintenance of color, flavor, yield and high vitamin content of milk.

The inclusion of grass or alfalfa silage production as a regular practice upon the dairy farm permits the cultivation of valuable soil-binding crops and the harvesting of these at the period when nutritive value is at a maximum regardless of weather conditions.

The milk-cow population of the North Atlantic states is estimated at over three million cows while probably a million replacement heifers over one year of age are present in these herds. This total of four million animals fed at the rate of four tons of silage each per year would be capable of consuming nearly 85,000,000 gallons of molasses if this were used at the rate of sixty pounds per ton. Higher molasses ratios up to 160 pounds per ton have been recommended by some authorities.

Copies of the Report are obtainable on request to Sugar Research Foundation, 52 Wall Street, New York 5, N. Y.

THE MARKETS

(April 27th, 1948)

Nothing has happened during the fifteen day period since our last report to bolster the sugar markets and the slow drift downward has continued. The trade is reported as holding off awaiting developments but, when supplies are available, the trade seems to be always "awaiting developments". There has been a rumor for some time that another reduction in quotas is about to be announced by the Secretary of Agriculture but this still remains just a rumor as this report is written. It is very evident, however, that consumption is falling far below expectations and the Secretary will probably have to do something about quotas before very long.

The closing quotations in the domestic future market today place May at 4.87

which is 10 points below the close on April 13th. May will soon leave the board, however, and transactions in this month are inclined to be erratic. July is 4.94, which is 6 points down, September is 4.97, down 5 points and December is 4.95, down 5 points since our last report. March 1949 closed today at 4.73, down 4 points, and May 1949 closed at 4.74, down 3 points since April 13th.

The Cuban producers are turning out sugar at almost unbelievable speed and by April 15th the production on that island had amounted to 4,841,157 short tons, raw value. The total Cuban production this year is expected to be about 6,531,000 short tons which is 91,000 tons more sugar than was produced in the record breaking crop of 1947.

The sales of actual sugar recorded during the period since April 13th were as follows: 3,000 tons of Philippines, on April 16th, for May-June shipment, at 4.45 to Refined Syrups; 2,000 tons of Cubas, on April 16th, for immediate loading, at 5.32 to Imperial; 45,000 bags of Puerto Ricos, on April 19th, for the first half of June delivery, at 5.40 to American; a Cuba cargo with outport options, on April 20th, for the second half of April shipment, at 5.35 to American; 20,00 bags of Puerto Ricos, on April 20th, for late May clearance, at 5.35 to National; a Cuba cargo with outport options, on May 21st, for the first half of May shipment, at 5.31 to Savannah; and 2,000 tons of Philippines, on April 26th, due about the end of May, at 5.35 to Sucrest.

Willett & Gray quote the spot price of raw sugar in New York today at 4.35 which is 97 points less than the price prevailing when the Secretary of Agriculture announced his first consumption estimate, and 20 points below the price prevailing when the Secretary of Agriculture announced his second consumption estimate.

The spot price of the New York Coffee & Sugar Exchange is 5.32.

Trade reports indicate that the demand for refined sugar is even lighter than it was two weeks ago with heavy

(Continued on Page 238)

CROP NEWS

(Continued from Page 232)

C. P. 36-13 has suffered most in the plant cane, and C. P. 34-120 in the stubble crop. Wire worms have been found in certain areas and are damaging stands. He reports the overall condition of the crop to be fairly good.

West Baton Rouge Parish. Reporting from Port Allen on April 13th, A. E. Camus states that his district has suffered practically no losses in either plant or stubble canes except in blocks where water remained for a long period during the wet weather. The stand of plant cane is exceptionally good and the stubble is very good. The tilt and condition of the soil is also exceptionally good. Mr. Camus says that the crop is very promising.

St. John Parish. Otis J. Broussard reports from St. John Parish that the cane crop in his district is very good. He says that the canes are up to good stands and that the ideal weather has allowed the farmers throughout the Parish to bring their field operations up to schedule.

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JOHNSON GRASS

(Continued from Page 233)

and additional germination tests will b made at a later date.

The value of this method as a quic means of determining the extent which a given soil area may be co taminated with Johnson grass seed wi depend on how completely the germina tion takes place under exposure greenhouse conditions. The high coun observed by the experiment cited wou seem to indicate that a considerable pe centage if not all of the viable seed ma have germinated during the 43-da period of observation. Practical adva tages of such a method to determi residual quantities of viable seed ar depth at which found in the soil follo ing eradication treatments are obviou low planting

Presented at the Annual Meetin Houma, La., Feb. 12, 1948.

Contact Committee Meeting May 4th.

The Contact Committee of the Ame can Sugar Cane League will meet in t Agricultural Extension Auditorium Louisiana State University in Bat Rouge at 10:00 A. M. on Tuesda May 4th.

Progress reports of Louisiana Ag cultural Experiment Station Technicia will be received at the meeting and members of the Contact Committee, a all other interested parties, are invit to be present.

The time is ten o'clock in the mo ing, and the date is Tuesday, May 4

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New Orleans, La.

TEST OF CYANAMID

(Continued from Page 231)

later satisfactory burning might be fo lowed by a considerable drop in avai able sugar. This together with the sac rifice of the normal gain to be antic pated between time of treatment an time at which the foliage becomes su ficiently dry to burn could add up to substantial loss in recoverable sugar. would seem important, therefore, to ex amine critically any new scheme whic might be employed in killing foliage t facilitate pre-harvest burning.

Presented at the Annual Meetin Houma, La., Feb. 12, 1948.

THE MARKETS

(Continued from Page 235)

unsold stocks of processed goods such a candy, jams and jellies causing th manufacturer to curtail their operatin schedules. This very slow demand being felt by the processors of dire consumption sugars in Louisiana.

Willett & Gray quote refined sug prices as follows: in the East 7.75 ex cept Sucrest 7.70; in the Southeast 7.6 in competitive territory 7.60; on th West Coast 7.75. Beets 7.40 in compet tive territory; 7.55 in Eastern territory 7.65 in the West Coast. Offshore r fined is available 7.50 and 7.40 in cotto bags.

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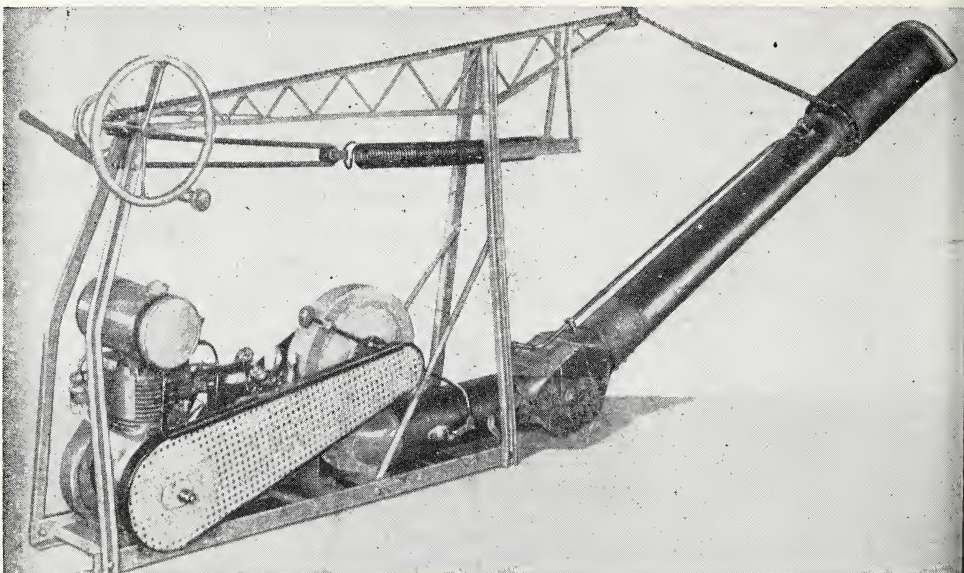

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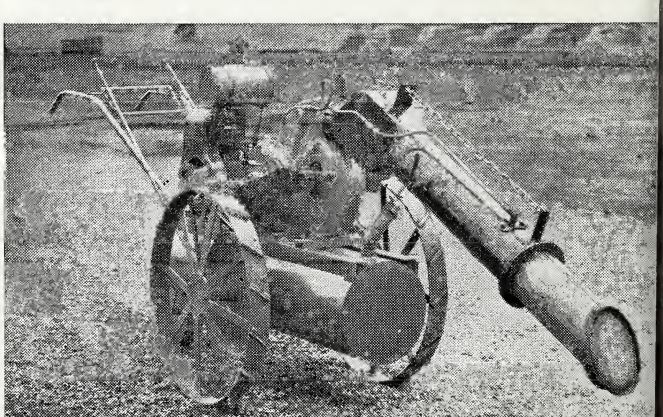

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THE SUGAR BULLETIN

as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., MAY 15, 1948 No. 16

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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E. W. McNEIL FILES BRIEF FOR LEAGUE AT LABOR BILL HEARING

This appearance is made and filed by E. W. McNeil, of Cinclare, Louisiana, Chairman of the Labor Committee of the American Sugar Cane League of the U. S. A., primarily for and on behalf of the Louisiana processors of sugar cane into sugar. Indirectly, but of equal importance, this appearance is on behalf of the Louisiana sugar cane growers or farmers, whose sole market for their crops of sugar cane is the Louisiana processors.

The American Sugar Cane League is a voluntary non-profit making association, with its domicile at New Orleans, Louisiana, and is composed of and represents 63 of the 65 Louisiana processing establishments and approximately 95% of the Louisiana sugar cane growers.

We understand the purpose and scope of the current hearings are not restricted to any one of the bills proposing amendments to the Fair Labor Standards Act, but are for the purpose of obtaining all possible pertinent facts and views concerning the numerous amendments which have been proposed in the several pending bills.

The American Sugar Cane League and its members are not proponents of any of the bills in their entirety, which you have under consideration. However, because of the drastic and probably fatal consequences which would result from the enactment of some of the proposed bills or amendments, we are impelled to recite for the record and your consideration the facts as relate to the Louisiana sugar industry.

Scope and Character of Industry

Sugarcane is processed into sugar in only two of our states, Louisiana and Florida, which states have been designated as the Mainland Cane Sugar Area; however, no effort will be herein made to analyze the operations conducted in Florida.

With few exceptions, the Louisiana processors of sugar cane produce on their own farms a portion of the sugar cane processed by them, and are, therefore, growers or farmers as well as processors. The greater portion of the cane processed in Louisiana is purchased by the processors from independent growers and the price paid therefor is based upon a formula established by the Secretary of Agriculture under the provisions of the Sugar Act of 1948, formerly the Sugar Act of 1937.

In Louisiana sugar cane is usually planted in the Fall of the year during the latter part of September and the first part of October. Occasionally a small acreage is planted in the Spring. This Fall and Spring plant cane, together with cane which has sprouted and grown from the stubble of a portion of the cane cut and harvested during the preceding year, comprise the crop which is harvested annually. This entire crop enjoys its growing season during the summer months and does not ripen until the first or middle part of the month of October. Immediately upon the ripening or maturity of the cane during the month of October when there is sufficient sucrose content to economically justify its processing, the harvesting of the crop for processing into sugar commences. The harvesting of the crop must be completed as quickly as possible due to the damaging effect of freezing temperatures on sugarcane. Immediately after the first severe freeze of winter, standing cane begins to deteriorate, and if not quickly harvested and processed, becomes valueless. Almost each year in Louisiana some cane is lost or severely damaged by freezing weather. Further, sugar cane is highly perishable after it is harvested, and regardless of weather conditions can be stored only a few days before processing.

Because of these inherent qualities of sugar cane, maturity period and lack of freeze resistance, the harvesting season as above pointed out, cannot commence until early October, and must be completed during the latter part of Decem-

ber, or the first few days of January. Usually the harvesting season is completed between the 20th and 30th of December, and only rarely, in the event of an exceedingly bountiful crop and an exceptionally mild early winter does the harvest extend into the month of January.

The nature of the crop is necessarily reflected in the processing operations. The processing plants begin their operations with the commencement of harvest and continue without interruption through the completion of harvest. The operations can therefore be said to have an annual seasonal duration of from 60 to 90 days. During the remainder of the year the processing plants are idle except for maintenance and repair work. To make it possible to harvest and process all of the cane during the harvesting season, thereby holding freeze damage to a minimum, the processing operations are conducted continuously 24 hours each day 7 days each week during the seasonal harvesting operations. A full crew of laborers must be employed continuously.

The operations of the Louisiana processors in processing sugar cane into sugar are, therefore, not year-round operations, or even substantially year-round operations. They are directly affected and restricted by the quantity of cane harvested each fall and early winter in the sugar cane-producing area of the State of Louisiana. These processors produce sugar and molasses from sugar cane. Some of them produce syrup. Some market bagasse, the dried cane fiber.

All of these processing plants are situated on sugar cane plantations, and within the area of production. They are situated in rural areas and none of them in close proximity to any large city or industrial area. Because of transportation cost, in practically all cases growers sell their sugar cane to a processor who operates in his immediate vicinity. As will be hereafter more fully set out, the growers and processors draw workers from a common and limited pool.

In view of the above facts, it is difficult to draw a line between the agricultural operations and the agricultu processing operations. The processi is merely the completion of the ag cultural movement.

Economics in Industry

Normally in any industry when employer is confronted with any a preciable increase in labor or oth operating costs, he may to some exte at least, protect himself. He may pa the increase in cost on to his purchas or the consuming public through an i crease in the price of his product. H may even be able to pass it ba through a reduction in the price he pa for his raw materials. The Louisia sugar cane processor can do neither.

The market price for sugar in norm times is controlled in large part by t estimate of consumption requiremen of sugar established by the Secreta of Agriculture of the United State under the authority formerly contain in the Sugar Act of 1937 and now the Sugar Act of 1948. In past yea the estimates have been so large that t price of sugar has been greatly deflate The domestic sugar producer cann curtail his production and expect t law of supply and demand to give hi a better price. If his production decreased, other areas, particularly o shore and foreign areas, where there always a surplus of production, supp the deficiency.

The producer cannot reduce the pri he pays for his raw material, sug cane, as this is completely controll and fixed under the provisions of t Sugar Act.

Further, in other industries it mig be normally expected that an employe position is protected to some extent that the selling price of his product w follow upward the general trend economic conditions. Such is not tr in the case of sugar.

As production costs increase, the pr cessor is caught in a closing vice diminishing return in which existen is impossible and bankruptcy probab The only possible relief comes in i creased efficiency, to which every effo has been turned in recent years by t

(Continued on Page 248)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The continued improvement in the ane crop and the wonderful way that he County Agents are cooperating with is by sending in their information nakes it a real pleasure to conduct this eature of *The Sugar Bulletin.*

All of the reports in this issue con- ain good news and are a lot different rom those that we were passing on to ur readers in February and March. 'erhaps 1948 is going to be the cane armers' year. Let's all keep our col- ective fingers crossed, and hope for the est.

Iberia Parish. Reporting from New beria W. E. Williams advises us that one inch rain May 8th was very eneficial to the crops throughout his istrict. The rain found some of the armers not completely caught up with heir field operations but the benefits eceived more than off-set the delay in ultivation. Sugarcane, Mr. Williams tates, is showing up well throughout is Parish and the indications are that his will be the best cane crop since 945 if normal weather prevails through- ut the remainder of the growing sea- on. The prospects for the corn crop re better than they have been in sev- ral years. Most of the progressive armers are fertilizing corn much more eavily than heretofore and field ob- ervations show that this is a paying roposition. The cotton crop is up to good stand and growing well. Solid eans are looking fine and so is the rice rop. The major drawback in the Par- sh, Mr. Williams says, is the rapid pread of Johnson grass, but the armers are beginning the fight to con- rol it.

West Baton Rouge Parish. The eneral condition of the farm crops in Vest Baton Rouge Parish is exception- lly good according to a report from . E. Camus. He says that the plant ane is exceptionally good and that the tubble crop is very good. Most all cane fields have been fertilized and worked up in fine condition. The pros- pects, Mr. Camus says, seem especially good for a fine cane yield this year. The rainfall has been almost ideal, and, due to the freezes last winter, the soil is in the best condition that it has been in years.

Lafayette Parish. From Lafayette Parish, S. J. Bowles reports that the sugarcane crop is in very good condi- tion with both the plant and 1st and 2nd year stubble crops looking fine both as to stand and growth. Mr. Bowles says that in spite of the fact that the amount of fertilizer available was very deficient, some of the vari- eties of cane have enjoyed such luxuri- ant growth that it is hoped that all field operations may be completed dur- ing the week of May 10th.

Vermilion Parish. The cane crop in Vermilion Parish has been fertilized and cultivated and is in good shape, according to a report from J. D. Sobert, with good stands and growth showing at this time. Mr. Sobert's report is dated May 7th and he says that a good rain has fallen in his district every week for the past three weeks. He thinks that some of the canes will be tall enough to lay-by by the latter part of May.

Lafourche Parish. A. C. Moreau advised us on May 7th that the cane in Lafourche Parish is still coming up to a fairly good stand. Most fertilizer applications have been completed and the crop is beginning to show the re- sults of the fertilization. The corn crop in general is very good, Mr. Moreau says, especially where a balanced fer- tilizer was applied before planting and the crop was side-dressed when it was 12 to 15 inches high.

St. Landry Parish. Reporting from Opelousas on May 7th, A. K. Smith states that the cane crop in St. Landry

(Continued on Page 247)

HEAVY MORTALITY OF SUGARCANE BORERS IN LOUISIANA LAST WINTE

By E. K. Bynum and W. E. Haley
U.S.D.A., Agr. Res. Adm., Bureau of Entomology and Plant Quarantine

It will interest sugarcane planters to learn that the mortality of hibernating sugarcane borers in Louisiana was very heavy during the past winter. Examinations of cane trash have been made this spring on 21 plantations to determine the condition of the overwintering borers after the coldest and wettest weather during January and February since 1940. All the cane trash was examined on a total of 647 ten-foot lengths of row, in which 17 borers larvae and 3 pupae were found alive. This gives an average of 21.5 live borer stages per acre. The lowest overwintering borer population ever recorded in Louisiana was 7.5 per acre in 1940.

About three times as much cane was found in 1948 per ten-foot length of row as in 1940. Apparently a larger amount of millable cane was left in the fields at harvesttime because of the scarcity of hand labor, the more general use of mechanical harvesting equipment and the unusual amount of rain during the harvesting period. Of all the hibernating borers found in these examinations, 94.3 percent were dead. Although the percentage of dead borers was about the same in 1948 as in 1940, the number surviving per acre was considerabl greater, apparently because of the large amount of cane left in the fields a harvesttime.

Data on the number of borers su viving the winter and the percentag of joints bored at harvesttime are give below for 8 to the past 10 years.

Year	Average number of borers overwintering per acre	Average percent of joints bore at harvesttin
1939	67.0	19.7
1940	7.5	5.3
1944	87.0	13.9
1945	254.0	16.5
1946	99.0	10.3
1947	..	13.3
1948	21.5	..

These data indicate that the firs generation borer population in 1948 wi probably be much lighter than usu and that the succeeding generatio during the year may also be compar tively light unless weather conditio should be very favorable for borer r production.

Editor's Note — This article w scheduled for the May 1st issue of T Sugar Bulletin but because of mechan cal reasons we were unable to use it that time. It is interesting to note th the prediction made by the writers wi respect to the first generation of bore has already proved correct.

A REPORT BY THE JOHNSON GRASS CONTROL COMMITTE

F. Evans Farwell, Chairman

We recommend that funds be set aside by the Experiment Station for the further study of methods of controlling and eradicating Johnson grass.

We recommend that the State Conservation Committee no longer place any limit on the percentage of Soil Conservation money that can be earned by a farm for fallow plowing Johnson grass.

We also recommend that there be no limit on the number of dollars that a farm, regardless of its size may earn for fallow plowing Johnson grass und Soil Conservation regulations. If su ficient funds are not available for han ling fallow cultivation practices as ou lined above, then a special effort shou be made through Washington contac to have a special Johnson grass contr law passed that would encourage a farmers in the State of Louisiana their fight against Johnson grass.

We suggest that the Executive Cor mittee of the American Sugar Ca League, or its duly authorized ager

ontact the Highway Department and ıe railroads serving the sugarcane ırmers, with the idea that they be apraised of the necessity of preventing ıe formation of Johnson grass seeds long their rights-of-way.

We recommend to the Industry that n severely infested lands farmers imıediately set up a fallow plowing sysem. Johnson grass should not be alowed to reach the heading stage uring March, April and May before it plowed under. During June, July and ugust the Johnson grass should be llowed under whenever it reaches a eight of 6 inches. In a normal season his plowing will prevent the formation f new seeds and will destroy practially all of the roots or rhizomes. urther work should be done this fall ı spraying, immediately after planting, he lands planted in cane with 2# of , 4-D per acre, either using 50 or 100 allons of water for distributing the , 4-D. This procedure kills the sproutng Johnson grass seeds and thus preents seedling growth before the cold veather. If seedling growth is permitted ı normal years, sufficient roots are set ut for the Johnson grass to start its rowth the following spring from roots ather than from seeds. Johnson grass f course comes up much earlier from oots than from seeds and is therefore n a position to become competitive to ane earlier.

Experiments being conducted this pring indicate that where proper fallowng has been done, the growth of seedings can continue to be controlled durng the spring with 2, 4-D. Some of the ıewer chemicals such as Sanobrite, Dow Selective and Pentachlarophenel plus 2, 4-D appear to be helpful in controlings seedlings that are not taller than 2 nches. Full information on these chemcals is not available, but it would apear that they can be used to kill the seedlings with only a slight burning effect on the cane. If such chemicals can be found, their use in conjunction with 2, 4-D and cultivating tools should give pretty complete control in lands hat were properly fallowed the year beore. Experiments should be expanded in the study of the cheapest methods of controlling Johnson grass on the ditch banks. Cost figures and techniques of application of ammate, chlorates, etc. will be more fully reported on at a later date.

Basically, where Johnson grass infestations are heavy, the practice of interplanted corn and beans should be discontinued. Where stubble is heavily infested with Johnson grass, it should be plowed out if at all possible as soon

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CROP NEWS

(Continued from Page 245)

Parish is suckering well and that fertilizer is being applied. Nitrogen fertilizer, however, is still a very scarce item. The plant canes, Mr. Smith says, are good, and the stubble crop is fair with C. P. 36-105 and C. P. 36-13 showing the fastest progress in growth. Moisture has been ample and field operations are progressing favorably.

St. John Parish. Otis J. Broussard reports that the cane crop throughout his Parish is good with the stubble very promising. The fertilizer supply, however, is still a bit short for some of his farmers. The recent rains have been very beneficial in those fields where fertilizer has been applied. Wire worms have been found in two small areas and are damaging stands, but in general the crop, though a little late, is improving rapidly.

Terrebonne Parish. The weather has been ideal in Terrebonne Parish, according to our report from Richard Sonnier, and the cane crop is in very satisfactory condition with the stands good and the canes growing nicely. He says that his farmers are still short on fertilizer.

St. James Parish. The cane crop has improved considerably in St. James Parish, according to a report from Joseph Lamendola, with the warm weather and opportune rains helping the crop to grow rapidly. All fertilizer operations have been completed and the work of cultivating the crop is well advanced.

BRIEF FILED

(Continued from Page 244)

Louisiana processors, but which has its limitations.

To conclusively substantiate our statement as to the position of the Louisiana processors, we desire to point out that today with operating costs and the prices of most commodities still spiraling upward, the price of sugar is dropping steadily. In spite of efforts of the Department of Agriculture to maintain a fair price, during the past four months the price of raw sugar has dropped approximately 1 cent per pound under its highest post war price of 6.32 cents per pound. The future market is much lower, indicating a rather dismal outlook.

As a result of the squeeze between costs and return which I have referred to, six processing establishments have been forced to discontinue operations during the past five years.

Importance of Louisiana Sugar Industry

We believe it pertinent to say at this point that Louisianians have at all times urged, in spite of some apparent belief to the contrary, that the Louisiana sugar industry holds an important and indispensable place in the maintenance of the economic welfare and safety to this country. We believe our production record during the recent war, when sugar and molasses were so scarce and yet so important to our very existence, conclusively substantiates our position. We desire to continue our contribution to the welfare of the nation.

Wage and Hour History of Industry

Upon the effective date of the Fair Labor Standards Act in 1938, the Louisiana processors were paying a minimum wage of approximately 25 cents per hour. One year later, in accordance with the act, the industry increased its minimum to 30 cents. On June 21, 1943, the minimum became 40 cents through industry committee action. These rather substantial increases necessitated comparable increases in the higher wage brackets to the many skilled and semi-skilled wage earners required in the processing operations. There have been, of course, other individual increases made since June 1943.

Because of the necessity of continuous 24-hour daily operations during the relatively short processing season, when both processing and harvesting labor demands are tremendously increased and when it is impossible to obtain sufficient workers to man additional shifts it has been and is now necessary to employ a vast majority of workers on a 84 hour workweek. Because of this inability of the sugar cane processors as well as many other agricultural and seasonal processing groups, to obtain additional workers during the period of their operations, the Congress in enacting the Fair Labor Standards Act included the exemptions provided in Section 7(c) and 7(b)(3). These exemptions have made it possible for the processors to operate and exist.

The sugar cane growers, like all others engaged in agriculture, have had the benefit of the complete wage and hour exemption provided in Section 13(a)(6) of the act.

Industry's Position on Pending Amendments

This appearance is addressed almost solely to the basic features of the Fair Labor Standards Act, wages and hours and the effect of any material change therein on the Louisiana processors of sugar cane. We must in justice to the Louisiana sugar cane processors and sugar cane farmers, who are wholly dependent on the processors for a market for their crops, urge that no drastic changes be enacted in the wage provisions or applicable hour exemption provisions of the act.

Any drastic wage increase or the elimination of the overtime exemption now applicable, would mean a material increase in production costs, which in our humble opinion, based on concrete and indisputable facts, would play havoc with the Louisiana sugar industry, including both farmers and processors.

Before considering the effect, in terms of dollars and cents, of an increase in the minimum wage and the elimination

of the Section 7(c) and Section 7(b)(3) exemptions, if such elimination be seriously proposed, we must bear in mind the basic reasons for premium wages for overtime employment and why it is entirely inequitable and unjust to impose premium wages on an employer in certain classes of employment.

Overtime Employment

The Fair Labor Standards Act was designed to assist labor and to eliminate, as far as possible, sub-standards of living. However, the framers of the act recognized that exemptions from certain provisions thereof were essential in some classes or occupations, operations and industries. This is particularly true in the applicability of the overtime provisions to the processing of agricultural commodities and seasonal operations.

There are many other groups in the identical or substantially similar positions with the Louisiana sugar cane processors as to overtime employment, and under the present act are granted the same overtime exemptions. Since we are naturally more familiar with our own labor conditions than with others, we desire to mention our own.

We have previously indicated the nature and scope of the operations involving the processing of sugar cane into sugar and by-products. During the short harvesting and processing season of from 60 to 90 days, the 65 Louisiana processing establishments, all operating in the sugar cane producing area of South Louisiana, employ in the aggregate many thousands of skilled, semi-skilled and unskilled seasonal workers who are not employed by the processors during the remainder of the year. During this same period the sugar cane farmers must employ many additional thousands of workers in their harvesting operations. One group cannot encroach on the other, because each is of equal importance and completely dependent on the other.

In spite of the complete exhaustion of the labor market in the producing area and the recruitment of labor from adjoining areas, it is impossible to obtain sufficient workers to establish a normal workweek in the processing mills of less than 84 hours. Even if it were economically sound or profitable to recruit and import unskilled workers from more distant areas or to more intensively recruit unskilled workers from adjoining areas, which thus far has not been possible, the supply of skilled and semi-skilled workers, of which many are required, could not be increased. None are now available and the short seasonal operations and period of employment do not permit a training program.

It should be mentioned here that even the workers who are now available for and do fill skilled and semi-skilled positions are not in most instances either skilled or semi-skilled in the ordinary sense of the word as the term is applied to year-round industrial workers. Because of the nature of the seasonal operations and employment, this is inescapable, but nevertheless it is not conducive to efficiency.

If the overtime exemptions are excluded from the Fair Labor Standards Act, the employer now so exempt theoretically has one of three alternatives. He may add additional shifts by employing many additional workers; he may discontinue his continuous operations and operate only a portion of each day; or he may pay premium wages for overtime employment. To the Louisiana sugar cane processors, and we are sure many other similar groups, the first and second alternatives are, in fact, non-existent. As above indicated, no additional employees are available and the continuity of the operations cannot be broken. In view of the peculiar conditions applicable to him, he is left with only the third alternative, the payment of premium wages. This alternative, under the circumstances, results in the imposition of a severe and harsh penalty resulting from conditions over which he has no control.

The overtime provisions of the act are designed, in part, to provide for additional compensation or hourly pay

to the worker for excess hours of employment when he has already completed what is considered a normal workweek. However, we understand an impelling cause for the premium wage provision was to increase or spread employment through the imposition of a penalty which could be avoided by employing additional workers. No such purpose can be accomplished in the case of the Louisiana processors of sugar cane or in other comparable groups.

Section 7(c) of the act covers all types of agricultural processing operations. We believe it is well recognized the farmer in his strictly agricultural operations cannot comply with the wage or hour standards set out in the act. Therefore, he is granted the complete exemption from both provisions. We have pointed out the unity of action, the close relationship, the drawing from the same labor market, the complete dependence of one on the other of the sugar cane farmer and processor. One merely completes the operation of the other in a continuous movement of the stalk of sugar cane from the field where cut to the bag of sugar, where the farmer's perishable commodity may be stored and handled for market. Because of this unity and relationship the necessary differential in basic wage rates in the field and processing mills creates a difficult situation for the farmer. However, the imposition of premium wages on the processor, if he were able to pay such wages, would make the farmer's labor problem impossible.

The congressional debates leading up to the enactment of the Fair Labor Standards Act indicate that the Congress was fully cognizant of the labor problems confronting seasonal agricultural processors and of the close relationship between the problems of these processors and those of the farmer. The granting of overtime exemptions to these processing operations indicates that the members of Congress conclusively felt such was absolutely essential. There have been no changes in any of the conditions which in 1938 justified these exemptions. They should therefore beyond doubt be maintained.

Effect of Increasing Wage Rates and Eliminating Overtime Exemptions on Louisiana Sugar Cane Processors

In determining wage rates, including the payment of premium wages for overtime employment, there must of necessity be considered the ability of the employer to pay. We realize that costs of living and the betterment of standards of living are important and must be given proper weight. However in the final analysis, if wage rates are increased beyond the ability of the employer to pay, the employer cannot long endure and the employee becomes unemployed.

Fortunately the Louisiana processors are able to present a rather clear picture of their ability, or lack of ability, to pay various wage rates, both with the continuation of the overtime exemptions and also assuming the elimination of the Section 7(c) exemption, and the elimination of both the Sections 7(c) and 7(b)(3) exemptions.

Beginning with the year 1937, the Department of Agricultural Economics of the Louisiana State University, at Baton Rouge, Louisiana, has conducted detailed studies of the annual costs and returns of raw sugar mills in Louisiana which studies are based on the records of the processors. These so-called raw sugar mills are processors of sugar cane into sugar and the by-products. These studies have been completed for each of the years 1937 and 1945, inclusive. Work is now in progress for the years 1946 and 1947.

Several months ago, when it appeared that amendments would be proposed to the Fair Labor Standards, the American Sugar Cane League requested the University to prepare a detailed and comprehensive analysis, based on these studies, of the effect on the Louisiana processors of amendments increasing the minimum wage and eliminating the overtime exemption provisions of the Fair Labor Standards Act.

This work is completed and was done by and under the supervision of Dr. J. Norman Efferson, Agricultural Economist, and is contained in Mimeograph

Circular No. 77, released by the Department of Agricultural Economics of the University in January 1948, entitled "Changes in the Costs and Returns from Raw Sugar Production in Louisiana to be Expected under certain Adjustments in Minimum Wage Rates."

Fifty copies of the study have been filed with your committee in accordance with its rules. We regret Dr. Efferson cannot appear before your committee to fully explain the work and results indicated. However, Dr. Efferson was selected by and is now on a special mission in Asia for the Secretary of Agriculture of the United States, investigating conditions with reference to production of rice in that section of the world. We recite this fact not only to explain his absence, but to indicate his ability, qualifications and reputation as an agricultural economist.

In Dr. Efferson's absence, Mr. F. E. Stanley, of the Department of Agricultural Economics of Louisiana State University, will appear before your committee to discuss the analysis and answer any questions with reference to its preparation and disclosures. Mr. Stanley assisted Dr. Efferson in the work and is eminently qualified in this respect.

To avoid repetition, I shall not recite the many facts and figures disclosed in the analysis, but desire to emphasize the results. As indicated in the analysis, it was desirable to use as a base for the projection, the operations of several years, rather than one. The minimum wage of 40 cents became effective in the sugar industry in June 1943. Therefore, it was not proper to include in the base, any year prior to 1943. Further, as above indicated, the cost studies are not completed for the years subsequent to 1945. Therefore, the three-year period 1943-1945, inclusive, has been used.

We feel we can rest our case by referring to the figures indicated in Tables 10 and 10 A on pages 17 and 17 A, of the analysis. There we find first, the actual average annual costs and return per mill for the three-year period. Further, we find what would result, assuming other conditions to be similar, from various minimum wage increases, with corresponding increases in the upper brackets which would necessarily follow, and from the elimination of the hour exemptions. Let us emphasize these results which are as follows:

The actual results with a 40 cent minimum wage and with full hour exemption show that direct labor costs per mill was $55,324.07, with an average annual net income per mill of $18,332.52.

Let us consider what the results would be with various wage levels and with and without the elimination of the Sections 7(c) and 7(b)(3) exemptions.

Maintaining the 40 cent minimum wage, with the elimination of the 7(c) exemption and the retention of the 7(b)(3) exemption would have increased the labor cost from $55,324.07 to $64,535.51, and reduced the net income to $9,113.08 per mill per year. Maintenance of the 40 cent minimum with the elimination of the 7(c) and 7(b)(3) exemptions would have increased the direct labor cost to $69,813.44 and reduced the net income to $3,843.15.

An increase of the minimum wage to 50 cents with the retention of the complete hour exemption would have increased the direct labor cost to $66,897.75 and reduced the net income to $2,132.18. A 50 cent minimum with the elimination of the 7(c) exemption and the retention of the 7(b)(3) exemption would have increased the labor cost to $78,047.38 and reduced the net income to a loss of $9,017.45. A 50 cent minimum with the elimination of both the 7(c) and 7(b)(3) exemptions would have increased the labor cost to $84,418.27 and reduced the net income to a loss of $15,388.34.

A 60 cent minimum wage with the full hour exemption, would have increased the direct labor costs from $55,324.07 to $78,470.82, and reduced the net income to a loss of $14,069.02. A 60 cent minimum with the elimination of the 7(c) exemption and retention of the 7(b)(3) exemption would have increased the labor cost to $91,536.21, and reduced the net income to a loss

of $27,134.41. A 60 cent minimum with the elimination of the 7(c) and the 7(b)(3) exemptions would have increased the labor cost to $99,022.31 and reduced the net income to a loss of $34,620.51.

A 65 cent minimum wage with the full hour exemption would have increased the direct labor cost to $84,264.64 and reduced the net income to a loss of $22,176.85. A 65 cent minimum with the elimination of the 7(c) exemption and maintenance of the 7(b)(3) exemption would have increased the labor cost to $98,294.69 and reduced the net income to a loss of $36,207.10. A 65 cent minimum with the elimination of the 7(c) and 7(b)(3 exemptions would have increased th direct labor cost to $106,333.55 and re duced the net income to a loss o $44,245.76.

An increase in the minimum wage t 70 cents with the retention of the ful hour exemption would have increase the direct labor cost from $55,324.0 to $90,049.17, and reduced the net in come to a loss of $30,273.95. A 7 cent minimum with the elimination c the 7(c) exemption and retention c the 7(b)(3) exemption would have in creased the direct labor cost to $105 042.36 and reduced the net income to loss of $45,247.14. A 70 cent minimur with the elimination of both the 7(c and the 7(b)(3) exemptions would hav increased the direct labor cost to $113 633.05, and reduced the net income t a loss of $53,837.83.

An increase to a 75 cent minimur wage with the retention of the full hou exemption, would have increased th direct labor costs from $55,324.07 t $95,824.22 and reduced the net incom to a loss of $38,361.17. A 75 cer minimum with the elimination of th 7(c) exemption and retention of th 7(b)(3) exemption would have ir creased the labor cost to $111,778.9 and reduced the net income to a los of $54,315.89. A 75 cent minimun with the elimination of both the 7(c and 7(b)(3) exemptions would hav increased the direct labor cost to $120 920.59 and reduced the net income to loss of $63,457.54.

The figures I have given you mo conclusively present our case than an other statement or argument we ca offer.

It is worthy of note that during th three-year period 1943-1945, the pri of sugar and molasses had increased a much as the then existing price ceilin would permit. The average income p 100 pounds of raw sugar during th period was $3.72 and of other incon from processing operations 94 cents, a total of $4.66 per hundred pounds.

In the post war era, with the pri of sugar rapidly declining even no there is no reason to anticipate an

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uch income as was received during the 943-1945 period. What the future olds in store may best be predicted, 'e fear, by reference to conditions in ıe pre-war era. A reference to the cost udies made by the Louisiana State niversity indicates that in the four-ear period 1937 to 1940, inclusive, the verage income per one hundred pounds f sugar was $2.93 and other income 28 ents, or a total of $3.21. These are aterially less than the comparative gures of the three-year period, 1943-945, used as a base.

In view of the projected results above utlined, compiled by a disinterested nd authoritative institution, we must ecommend with all the force, vigor and ncerity at our command, that the inimum wage be not increased under ny circumstances above 50 cents per our and that the exemptions now in-uded in the act under Sections 7(c) nd 7(b)(3) be fully retained.

Administrative Interpretations

We oppose any amendment which has r its purpose an increase in the power authority of the Administrator. nder our system of government, the amework of which is contained in the onstitution, the Congress is delegated uthority to enact laws and our courts uthority to interpret them. Any diver-ence from this gives rise to the pos-bility of abuse without proper re-ourse in the aggrieved parties.

In any law, such as the Fair Labor tandards Act, some administrative uthority must be granted with proper ıfeguards. However, in our opinion, ıe Administrator of the Wage and our Division has ample authority nder the law as now written. Certainly o authority should be delegated to the dministrator to issue interpretations interpretative regulations defining nd particularizing the terms and pro-sions of the act, which have the force nd effect of law, beyond the protection ecorded employers who in good faith ly on written interpretations of the

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Administrator as provided in Section 10(a) of the Portal to Portal Act of 1947. We therefore object to any such amendment.

Respectfully submitted:

E. W. McNEIL, *Chairman*
Labor Committee
American Sugar Cane League of the U. S. A.

JOHNSON GRASS

(Continued from Page 247)

as it has been harvested. Winter cover crop seed of a type that is locally satisfactory should then be planted on the land. Where drainage conditions permit, seeds can be planted on flushed land; otherwise, on top of the rows. The main idea, of course, is to get as uniform and as thick a blanket of winter cover as is possible. In the spring when the Johnson grass starts showing through the winter cover crop in large quantities, or when the weather has been hot enough for the winter cover crop to have been killed down, fallow plowing should again be set up. In lands not too heavily infested with Johnson grass, the stubble should be plowed out in the fall if possible and where the land is in poor condition, the winter cover crop should be planted; otherwise, the rows should be reversed and the land left until February, at which time it should be flushed and beans drilled into it near the 1st. of March. These beans should be allowed to stand on the land until Johnson grass starts making seed, at which time the beans should be cut for hay or plowed under. Fallow plowing should follow this until the land is planted at the end of the summer.

We cannot recommend too strongly the research and experimentation with all of the new chemicals that are being made available to the Industry at the present time. There are so many new techniques and developments taking place that everyone in the Industry should carry on some experimentation with the idea that we may more rapidly find solutions to our problems.

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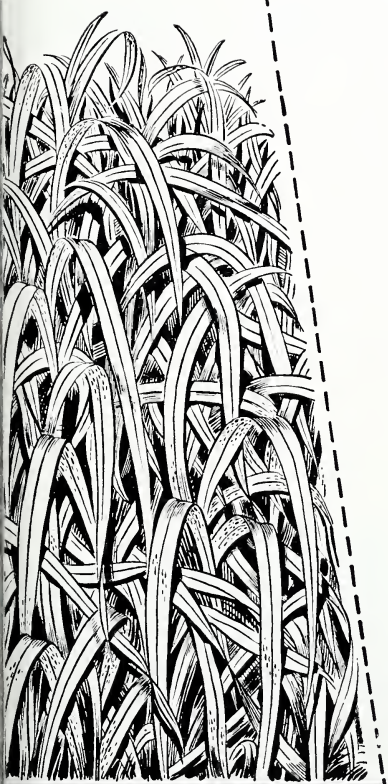

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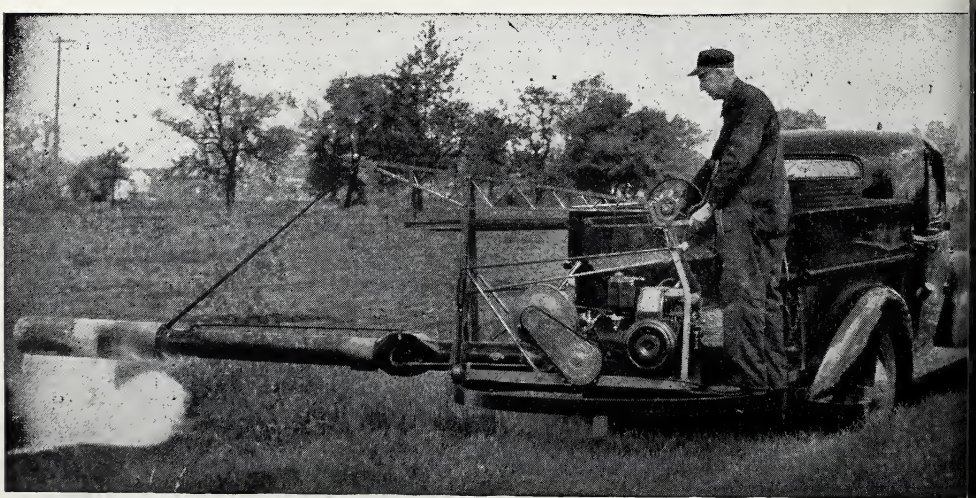

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The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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IN WASHINGTON WITH C. J. BOURG

Senator John H. Overton

In the passing of Senator John H. Overton, the Louisiana sugar industry has suffered a grievous loss. He had been the friend and champion of domestic sugar production, as well as the staunch supporter of the rights of Louisiana growers and producers to participate on an increasing basis in the American market.

At a time when Henry Wallace was Secretary of Agriculture, it became so evident to Senator Overton that the interests of the Louisiana sugar producers were not being given their proper place in the Federal sugar program, he introduced bills expressing the hopes of the industry and his personal ideas as to the extent to which the growers and processors of our State were entitled to participate in any Federal program. While the Overton bill did not become law, it received the attention and consideration of Congress in connection with other bills, and as a result, Louisiana's place in the sugar picture has grown progressively and our producers have benefited accordingly.

Senator Overton was particularly interested in research, and through his membership on the Appropriations Committee, he was able to make sure that the funds for projects connected with sugar research were included and maintained. He was also particularly active and helpful in obtaining funds for tl Federal building at the Sugar Exper ment Station in Houma.

Senator Overton was very cooperati naturally, and through his cooperatic with Senator Ellender and the Hou Members of the Louisiana Congression Delegation, the welfare of the sugar i dustry was always ably supported.

In the opinion of many, the greate public service which Senator Overtc performed throughout his distinguishe career has been the growing recognitic by the Federal Government of its r sponsibility in the matter of flood co trol, particularly in the Mississippi Va ley. The sugarcane growers who are the watershed and floodway of the Mi sissippi River have benefited direct and individually from the constant e forts of the Senator. His work in th respect will continue to be effectual ar beneficial for many years in the futu In a public sense, the whole nation h profited and practically every parish the state has received benefits direct or indirectly. As the Senator himse liked to express it, he "majored" Federal waterways and floodways. H tremendous influence was always ev dent and, in fact, continues even aft his passing. No greater tribute to tl Senator's sincerity and personal pop larity among his colleagues could l paid to him or serve in recognition his statesmanship.

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The reports from our friends, the ounty agents, are not as plentiful this sue as they have been before but those nat we have received give a good picure of the condition of the crops in ne various sections of the sugar disrict. Since receiving most of the reorts listed below heavy showers have een fairly general over the sugar territory and we believe that the anxiety ndicated in some of the reports about he dry weather has alleviated to a reat extent since they were mailed in.

Iberville Parish. This is the first eport that we have had from R. J. Badeaux, Jr., in a number of issues and 'e are glad to be able to report that e says that the cane crop in Iberville 'arish is now exceptionally good. His eport was mailed on May 20th and t that time rain was seriously needed. 'ertilization, Mr. Badeaux states, has een completed with the needs met. C.P. 36-105 and C.P. 34-120 are lookng very good in the plant cane. Mr. Badeaux further states that the fallow lowing of Johnson grass infested lands ast summer will pay dividends this fall f the canes get favorable weather.

Lafourche Parish. A. C. Moreau dvised us on May 20th that the cane rop in Lafourche Parish was looking ine and that stands have generally imroved throughout the Parish. The vork of fertilizing the canes was about ompleted on that date and some of he crop was being laid by. The corn rop in Lafourche Parish is also fine. Mr. Moreau stated that rain was needed t the time of his report but we feel ure that that situation has now been emedied. Commenting of the results f spraying the potato crop for disease ontrol, Mr. Moreau states that the praying gave an increase of 1,400 to ,600 pounds of potatoes per acre over he unsprayed fields. These results vere born out in five demonstrations onducted over the parish.

St. Mary Parish. The condition of the cane crop in St. Mary Parish is satisfactory, according to a report received from P. J. deGravelles, with the crop clean and well cultivated. The stands of the plant canes and first year stubble crops are very good with but few exceptions, but bad stands of second year stubble are rather general throughout his Parish. Notwithstanding the fact that some damage has been done to the corn crop in St. Mary Parish by grass worms and army worms, Mr. deGravelles is able to state that the corn in his district is also very good. A concerted campaign for the control of Johnson grass by fallow plowing is being carried on in St. Mary Parish.

Pointe Coupee Parish. A. B. Curet sent in his report from Pointe Coupee Parish on May 21st and stated that the cane crop in his district is generally promising. Plant canes are in fine shape and the stubble crop is doing well in those fields where the Johnson grass infestation is not too bad. Mr. Curet stated that a rain was needed when he mailed his report. The farmers in his district are hopeful that they will have a fairly good crop this year but, Mr. Curet says, the Johnson grass problem is becoming serious.

Iberia Parish. Reporting from Iberia Parish on May 27th W. E. Williams advises us that the sugarcane crop is looking fine throughout his district. We quote Mr. Williams' report. "Farmers have the best prospects for a corn crop I have ever seen in this Parish in the last 10 years. Cotton is doing well in the cotton growing sections. Rice is showing up well.

"A one inch rain occurring on May 26th was very beneficial to all crops, however, another inch rain would be helpful.

(Continued on Page 270)

1947 PROGRESS REPORT*--DRAINAGE RESEARCH FOR SUGAR CANE LAND IN SOUTHERN LOUISIANA

I. L. Saveson, Drainage Engineer, U. S. Department of Agriculture, Soil Conservation Service Research

The purpose of this report is to outline the work and results for the calendar year 1947 of the project Drainage Research for sugar cane land. This project is a joint undertaking of the U. S. Department of Agriculture Soil Conservation Service Research and the Louisiana Agricultural Experiment Station.

The year 1947 was an unusual one with regard to rainfall. At the test areas the first four months had an excess of approximately 13 inches of rainfall with February being deficient by 3.57 inches. The next six months had a deficiency of approximately 13 inches and the last two months had an excess of approximately 8 inches.

Cut Crowning

(Turtlebacking)

Yields from test areas are as follows:

Other Test Areas

A small test area was worked on the St. Delphine Plantation in Feb. 1947. This area had been in pasture for three years previous for the control of Johnson grass. It was planted to corn on 6 ft. rows in 1947 and interplanted with beans.

The following are the corn yields from this area:

Area	Acres	Bu. per Acre	Treatment
Check Plot	4.3	20.78	Rowed & plowed conventional method
Test Plot No. 1	4.7	28.96	Crowned-Whirlwind Terracer
Test Plot No. 2	5.3	40.02	Crowned-Whirlwind Terracer

Note: Test Plot No. 1 had poor stand of corn. The determination of pounds per bushel were not made. The above yields are on the basis of 82 pounds per bushel.

There is one significant point that the yields for 1947 point out. That is that both corn and cane grown on well drained land is better able to withstand periods of droughts. The yields further point that the increase more than pay for the cost of the work. This phase will be discussed later in the report.

This years field work consisted of putting the cut crowning (turtlebacking) work on a larger scale of operation to ascertain volume costs.

The work done in 1946 on the Smithfield Plantation was on a one-cut basis. Considerable time was spent on the Smithfield test area experimenting with various techniques; therefore the costs ascertained were not applicable where the work would be undertaken by sugar planters.

The volume test area was located on the Westover Plantation at Port Allen

1946 **Yields St. Delphine Test Area No. 1**

Treatment	Acres	Tons/Acre		Standard	Brix	Sucrose	Purity	Sugar per Ton	Sugar per Acre
		Total Tons	Mill Run						
Graded	6.4	166.83	26.07	26.72	15.66	12.49	79.76	167.46	4365.7
Ungraded	6.3	139.68	22.17	22.24	16.13	12.05	74.73	155.3	3443.0
	More per acre		3.9	4.48					922.7

1947 **Yields St. Delphine Test Area No. 1**

Treatment	Acres	Tons/Acre		Standard	Brix	Sucrose	Purity	Sugar Ton	Sugar Acre
		Total Tons	Mill Run						
Graded	6.4	95.87	14.98	16.67	17.75	13.76	77.60	185.14	2773.4
Ungraded	6.3	84.48	13.42	14.69	17.63	13.48	76.38	179.86	2413.7
	More per acre		1.56	1.98					359.6

La. This test area consists of 18 cuts, cuts wide and 3 cuts long of approximately 73 acres. The cuts vary in width rom 170 to 330 feet. It is located on J. S. Highway 71, approximately 10 niles west of Baton Rouge. This area was worked the spring of 1947 and ontinued in fallow until the fall of 1947 when it was planted to sugar cane. Nine cuts on the Westover test area were crowned with the Parsons Whirlwind terracer. A motor grader was used for moving the earth next to the ditch which the terracer could not reach. This earth was spoiled into the furrow left by the terracer. The cuts were gone over three times to get a crown. Operating costs for this work were as follows:

Equipment	Hours per Acre	Acres per 9 hr. day	Cost per Acre	Remarks
V-9 Farm tractor & Parsons Whirlwind Terracer	4.34	2.07	7.30	Moving earth to center of cuts. Tractor in 3rd speed operating 2 cuts long, 3 times over.
V-9 Farm tractor & Parsons Whirlwind Terracer	6.14	1.47	9.91	Moving earth to center of cuts. Tractor in 2nd speed operating 2 cuts long, 3 times over.
V-9 Farm tractor & Parsons Whirlwind Terracer	8.0	1.13	12.61	Moving earth to center of cuts. Tractor in 2nd speed operating 1 cut long, 3 times over.

Using tractor and pull grader instead f motor grader increased above cost 0c per acre. The cost figures above include fuel, oil, repairs, depreciation of he equipment, and operator at 50c per our.

The above cost figures reveal that the onger the area worked the more economical the work. Working the cut in locks of two long reduced the time ost in turning, with a reduction in costs f $2.70 per acre and a reduction in ours per acre, 2.14 hours. The terracer was not raised to cross the dividng head land. The head land being ard, very little earth was disturbed nd no particular damage done on the ead land.

Description

Three cuts crowned with the Parsons Whirlwind terracer using the island nethod. The island method tried is imilar to the one used in constructing erraces. The machine was started approximately 1/4 of the width of the cut rom each lateral ditch. This area was worked until the ditch was encountered. Then the machine was started approximately 1/3 the width of the cut from the lateral ditches, reworking the area until the ditch was encountered. This place of starting being the place the earth was thrown towards the middle by the first operation. The second operation was repeated until the thrown earth met in the center of the cut. The earth became so pulverized by reworking that the machine would not throw it. The tractor operator also could not keep his furrows straight so a uniform crown was not obtained. In order for this method to be workable it would require a better skilled operator and leave the earth settle between workings.

Nine cuts of the Westover test area were crowned with a bulldozer. A motor grader was used to smooth the cuts after dozing. Operating costs for this work are as follows:

Cuts that adjoin canals have considerable earth from the canal excavation to move in order to form a crown to the cut. This earth is often compacted since it is generally used for a

SIX CENTER CUTS

Equipment	Hours per Acre	Acres per 9 hr. day	Cost per Acre	Remarks
ulldozer and Motor Grader	3.43	2.62	11.72	Moving earth to center of cut after cutting shoulder motor with grader. Smoothing cut with motor grader after bulldozing.

CUTS ALONG MAIN CANAL

ulldozer and Motor Grader	7.41	1.21	25.27	Moving earth from road and adjacent area p ed by canal excavating and cut crowning. Cutting s ould- er and smoothing cuts and road after bulldozing.

roadway. If sufficient earth is available it is more often desirable to slope the entire cut to the first lateral ditch rather than crowning the cut. The crowning of cuts on a volume basis reduces the cost as follows: Smithfield Test area, 1946-Versus-Westover Test Area, 1947.

1. Parsons Whirlwind terracer $16.59 per acre to $7.20 per acre.

2. Bulldozer $29.94 per acre to $11.72 per acre.

The cut crowning work for 1947 concludes three seasons work with the practice. The following observations have been made during this period.

1. Increased yields more than pay for installing the practice.

A. Corn—Corn yields were doubled on test area #1 at St. Delphine in 1946 from 13 to 26 bushels per acre. On test area #2 in 1947 corn yields were increased from 20.78 to 28.96 and 40.02 with an average increase of 13.71 bushels more per acre.

B. Sugar Cane—Test area #1 on St. Delphine plantation for two years shows a total increased return on a cane basis $50.27 on a sugar basis $62.06. 1946, on a cane basis 34.04 on a sugar basis 44.72 and 1947 on a cane basis 16.23 on a sugar basis 17.34. The practice costing from $7.30 to 11.72 per acre.

2. Sugar cane is light along the edge of the crowned cuts but the increased yields in the center of the cuts will more than offset it.

3. The Parsons Whirlwind terracer gives the lowest cost per acre when the arrangement of cuts are such to work more than one cut in length but takes longer to complete the work.

4. Bulldozers give a higher cost per acre but completes the work faster and does work of a better quality. Since the operator has better control of the movement of earth and can fill in the low depressions.

5. Cuts have been crowned from approximately 130 feet to 330 feet in width. From a construction standpoint, it is the feeling at the project, that approximately 250 feet is the maximum width of cut that can be crowned satisfactorily with bulldozers and Whirlwind terracers.

6. Further work is needed on the practice to ascertain:

A. The minimum crown which will give satisfactory drainage.

B. Further work with other types of equipment or combinations of equipment plows, scrapers, and etc.

C. Feasibility of grading the cut lengthwise to lessen the number of quarter drains required.

Lateral Ditches

Lateral ditch construction has been carried on in conjunction with the cut crowning work.

At the project a sloping side bucket was developed in cooperation with one manufacturer in 1944. This type of bucket is now being built by three different manufacturers. There are approximately 30 being used in the cane territory in conjunction with stradd draglines.

The question of cleaning lateral ditches before crowning or after is often raised. It is the thinking at the project if the cut is crowned with a Parsons Whirlwind terracer the ditch should be cleaned first. If the cut is crowned with a bulldozer it is an advantage to clean after crowning. The spoil taken to the center when the cut is smoothed with a grader or gathered with the bulldozer and taken to the center as a second operation.

The crowning of cuts along with the fallow plowing program for control of Johnson grass is increasing the silting problem of lateral ditches. It is felt at the project that the problem warrants consideration.

Mole Drainage

Machines for installing mole drains have been the greatest limiting factor in mole drainage work. Points do not run perfect for all depths since the length of the beam does not change. Machines cannot readily change depth while oper

ating in order to install mole drains on a grade. Those that can be readily changed while operating require changing the pitch of the point which cannot readily be accomplished. In view of this limiting factor a test machine was constructed in 1946 for determining some basic information on the length of beam for various depths, and to develop a machine that the beam lengthens as the depth is increased. Also to study means of lessening the power required to pull the machine and eventually develop a machine of less cost than the present machines. The experimental machine has been built and test runs made. Tests were also run on water lubrication of the blade and point.

The project is in the process of making some refinements on a mole machine which it has developed, based on the data obtained with the test machine.

The beam lengthened as the depth increases. The pitch of the point is constant. The depth can be changed by a hydraulic cylinder while operating. This machine operates very satisfactorily in installing mole drains. A sled was used for transporting the machine when the point is out of the ground both in the field and on the highway. This sled is giving trouble in gathering trash. Plans are now being prepared to discard the sled and use a latch and arm on the tractor for transporting.

Drawbar tests were made with the principle of water lubricating the mole point and blade using experimental mole machine. The blade and point were constructed hollow and perforated.

The results of this test are as follows:

	Non-Lubricated		Water-Lubricated		Reduction		
	Lbs. Pull	H. P.	Lbs. Pull	H. P.	Lbs. Pull	H. P.	% H. P.
Maximum	10,800	32.98	8,400	25.65	2,400	7.33	22%
Average	9,000	27.5	6,900	2.107	2,100	6.4	23.27%

You will note that we have approximately 22% reduction in horse power required and a reduction of 2400 lbs. drawbar pull. In order to make water lubrication of the blade practical we will probably have to do some other work, since the present set up uses considerable water.

Three cuts were mole drained on the Louisiana Sugar Station for the control of seepage. This work is under observation at this time.

Contemplated Work for 1948

Land Grading:

1. Tests with land plane as a usable tool in reducing the number of quarter drains required.
2. Trials with different degrees of cut crowning to ascertain optimum crown for adequate drainage.

Mole Drainage:

1. Continue machine development work.
2. Re-mole test area on Cinclare Plantation.
3. Set up three test areas with developed machine.

Lateral Ditches:

Start setting up study on different shapes of lateral ditches.

NOTE: The amount of contemplated work for 1948 is reduced from previous years due to curtailment of funds.

As a side light to the project two Field Days were held at the Westover test area on May 28, 1947 with an attendance of Operations personnel of the Soil Conservation Service working in the cane territory and interested District Supervisors. On July 5 the Extension Service held a Field Day and approximately 200 attended.

Few articles were published in 1947.

Publications

U. S. Department of Agriculture Clip Sheet of June 8, 1947—"Turtlebacks Shed Raindrops".

The Sugar Journal of December 1947—"Drainage Research for Sugar Cane Land in Southern Louisiana".

*This progress report compiled for Contact Committee of American Sugar Cane League.

LEAGUE PROTESTS WAGE INCREASES

The two letters printed below set forth the position of the American Sugar Cane League with respect to production and cultivation wage increases in the Louisiana sugar district. The letters are self-explanatory.

May 21, 1948

Mr. Lawrence Myers, Director
Sugar Branch
Production and Marketing Administration
U. S. Department of Agricuture
Washington, D. C.

Dear Mr. Myers:

We write you to confirm the several discussions representatives of this organization have had with representatives of your branch with reference to the determination of fair and reasonable wage rates for persons employed in the production and cultivation of sugar cane in Louisiana during the calendar year 1948, which was issued on January 16, 1948.

At the public hearing held with reference to these wage rates at New Iberia, Louisiana, on July 26, 1947, the American Sugar Cane League appeared, through the writer as Chairman of its Labor Committee, representing the Louisiana producers or growers of sugar cane. We made certain recommendations as to the 1947 harvesting wage rates and the 1948 production and cultivating rates, cognizance of which was taken by the then Acting Secretary of Agriculture in his "Statement of Bases and Considerations" issued with the Determination.

At the time of the hearing the price of raw sugar was 6.32 cents per pound. Considering the then price of sugar, and in view of the increase in cost of living, we recommended that the 1947 harvesting wages and 1948 cultivating wages be increased 12% over the 1946 harvesting wages and 1947 cultivating wages respectively, but subject to the condition that such increased rates be revised should the price of sugar advance or recede significantly. You will find at page 11 of the transcript of testimony taken at the New Iberia hearing, in making recommendations as to the 1948 cultivating wage determination, the writer in his representative capacity stated:

> "This hearing also relates to the planting and cultivating wage rates during the calendar year 1948. It is impossible to anticipate at this time what return per ton of cane will be received from the 1948 crop. However, unless there is some significant change in the price of sugar prior to the issuance of this Determination, it appears proper that the same percentage increase should be here applied, subject to revision after issuance of the Determination if there is any significant change thereafter in the price of sugar."

The 1948 production and cultivating wage determination and the Statement of Bases and Considerations issued in connection therewith, completely ignores the significant qualification to the recommendation of a 12% wage increase. Under paragraph (c) of the Statement of Bases and Considerations entitled "Background", it is stated that consideration was given to our recommendation, but it is quite obvious consideration was given to only a portion of the recommendation.

As I have indicated above, the price of raw sugar on the date of the New Iberia hearing was 6.32 cents per pound. On January 16, 1948, the date of issuance of the Determination, the price was 5.67 cents per pound. We consider this a very significant decline in the price of raw sugar prior to the issuance of the Determination, but the Determination carries the full 12% wage increase. Further, the quoted price of raw sugar today is 5.12 cents per pound. This is even a more significant decline, but the Louisiana growers of sugar cane are paying the 12% wage increase.

(Continued on Page 268)

DOMESTIC SUGAR REQUIREMENTS AGAIN REVISED

The Department of Agriculture announced on May 26th that the quantity of sugar determined to be required for domestic consumption in 1948 has been reduced to 7,000,000 short tons, raw value. This is a reduction of 500,000 short tons, raw value, from the quantity determined to be required for domestic consumption on February 26, in accordance with Section 201 of the Sugar Act of 1948.

In announcing the revision, the Department pointed out that current sugar distribution has been far below a level consistent with the use of 7,500,000 tons for the year. So far in 1943, domestic sugar consumption has been running at an annual rate only slightly above 6 million tons, and wholesale prices have declined materially.

Although distribution is expected to increase during the summer and fall when sugar consumption is normally at its seasonal peak, it is doubtful that heavy consumption in those months will compensate entirely for the low distribution to date. The continued reduction of stocks held by consumers and the distributing trade will place an additional burden on our transportation and distributive system when peak demand hits.

In emphasizing that the Sugar Act is designed to protect the welfare of both consumers and those engaged in the domestic sugar industry, officials of the Department said that inflationary sugar prices have been prevented throughout the war and postwar period to date and the danger of such prices is now past. Because of the shortage of foreign purchasing power, a surplus of sugar is available for domestic consumers. However, the Department cannot, in carrying out the provisions of the Sugar Act, permit sugar prices to fall to depression levels while prices of things farmers buy remain high. Neither should working inventories become so depleted that local shortages develop in the heavy consuming months. In view of the large stocks on hand January 1, 1948, the revised determination will permit total distribution and consumption for the year to be considerably above 7,000,000 tons. In the event demand should increase beyond the level now provided for, the consumption estimate can be increased.

JARREAU ELECTED SECRETARY-TREASURER OF STATE AGRICULTURAL CORPORATION

Henry W. Jarreau, of New Orleans, has been elected to succeed Lester Girard as the Secretary-Treasurer of the State Agricultural Credit Corporation. This announcement was made during the past week. Other officers of the Corporation are R. M. Murphy, of New Orleans, President, E. N. Kearny, of New Orleans, 1st Vice-President, J. Munson, of Houma, 2nd Vice-President, and Mrs. O. C. Schulz, of New Orleans, Assistant Treasurer.

The change in the Secretary-Treasurer of the Corporation was made necessary when Lester Girard, who has been with the crop financing agency for over twenty years, decided to accept a position as Assistant Treasurer of the Valite Corporation, effective June 1st.

Mr. Jarreau has been connected with the State Agricultural Credit Corporation for the past fifteen years in the capacity of bookkeeper and is, of course, the logical man to take over the duties relinquished by Mr. Girard. Daniel G. Delatte has been employed as the new bookkeeper.

LEAGUE PROTESTS

(Continued from Page 266)

We write this letter, not with the hope or expectation of any change in the 1948 production and cultivating wage Determination, as such change could serve no useful purpose at this late date. However, we do desire to place the Louisiana producers of sugar cane on record as making formal protest. We hope this protest will in some measure protect the Louisiana growers against a recurrence of the same situation in the future.

With best wishes, we are

E. W. McNEIL,
Chairman, Labor Committee

—o—

May 28, 1948

Mr. E. W. McNeil
Chairman, Labor Committee
Cinclare, Louisiana

Dear Mac:

I received yours of the 21st, enclosing original copy of letter to Larry Myers, Director of the Sugar Branch, in connection with fair and reasonable wage rates for persons employed in the production and cultivation of sugarcane in Louisiana.

I personally presented the letter to Myers and discussed the subject matter rather thoroughly with him. Mr. Allen Chief of the Wage & Price Division was present. They agreed that they would make an appropriate reply, and I asked them particularly to give their reaction to the various points of view expressed in your letter.

They discussed with me whether Louisiana would not prefer to have one determination made for all wages on cultivation as well as harvesting. Allen's idea was to have it on a fiscal year basis so that the hearings could be held about May and the wages announced for all operations from July to June. Incidentally, this is the practice being followed in Florida and the Sugar Branch tells me that it is working satisfactorily there. You might want to talk to Grayson about that.

I told Myers that your purpose in writing the letter was primarily to suggest that the reduction in prices should be given major consideration in connection with the hearings and the determination on harvesting wages, but I was sure it was also your purpose to direct the attention of the Sugar Branch to the fact that the wages being paid in the production of this year's crop are based upon last year's prices and, therefore, some consideration should be given to an increased price in the last half of the year, otherwise the minimum wage rate for harvesting would have to be on a reduced basis.

May I suggest that your letter to Myers, and possibly this reply, might well be the subject of distribution in Louisiana. You may want to consider submitting your letter for publication in the Bulletin.

With all good wishes,

Very truly yours, C. J. BOURG

—o—

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THE MARKETS

(May 28, 1948)

The major development affecting the sugar markets since our last report was the 500,000 ton reduction in quotas announced by the Secretary of Agricultu

n May 27th. This reduced the esti-
nated consumption requirements for
he Continental United States to 7,000,-
00 tons for 1948.

Prices in the #5 future market have
een working their way slowly upward
uring the two week period under re-
iew, indicating that the trade antici-
ated the quota reduction, and the
verall advance has been from 21 to 23
oints since the close of the markets on
Iay 12th. Today July closed at 4.83,
n advance of 22 points since May
2th; September closed at 4.88, up 23
oints; and December closed at 4.85,
hich is a 21 point advance for the
eriod. March 1949 closed today at
.57 and May 1949 closed at 4.59, both
p 23 points since May 12th. It is
gnificant to note, however, that there
as been no wild scramble to invest in
igar futures and that the market ap-
ears to have leveled off.

The prevailing opinion seems to be
iat the reduction may be sufficient to
abilize prices around their present
vels but that there is nothing in the
ipply picture at the present time to
idicate much chance of the market
orking its way back to anywhere near
ie 6.32 price that was prevailing when
ie first consumption estimate was an-
ounced early in January.

We believe that most observers will
e surprised if the 1948 consumption of
igar runs much over 6,500,000 tons.

The spot raw sugar price today is
25 which is an advance of 20 points
nce the close of the market on May
2th.

The long looked for reduction in the
st prices of the major refiners finally
curred on May 13th when the Na-
onal Sugar Refining Company reduced
s prices 25 points to 7.50 and the
her refiners did likewise. Sucrest cut
7.45.

On May 14th the American an-
ounced a reduction to 7.40 in speci-
ed competitive territory and the New
rleans refiners all reduced to the 7.40
gure. These prices are still prevailing
this writing.

The sales of actual sugars recorded

Commercial Members of the AMERICAN SUGAR LEAGUE OF THE U.S.A., INC.

AMERICAN CYNAMID CO.
30 Rockefeller Plaza
New York, N. Y.

AMERICAN MOLASSES CO., OF LOUISIANA
Hibernia Bank Building
New Orleans, La.

GAY SULLIVAN & CO., INC.
300 Decatur St.
New Orleans, La.

HARDIN BAG & BURLAP CO., INC.
1050 Constance Street
New Orleans, La.

HARRY L. LAWS & CO., INC.
126 Carondelet Street
New Orleans 12, La.

THE HIBERNIA NATIONAL BANK
New Orleans, La.

LAMBORN & COMPANY, INC.
Whitney Building
New Orleans, La.

LEBOURGEOIS BROKERAGE CO.
823 Perdido Street
New Orleans, La.

MOLASSES PRODUCTS, INC.
532-534 Audubon Bldg.
New Orleans 16, La.

THE NATIONAL BANK OF COMMERCE
New Orleans, La.

PENICK & FORD LTD., INC.
Canal Bank Building
New Orleans, La.

E. A. RAINOLD, INC.
456 Marine Building
New Orleans 12, La.

STANDARD OIL CO. OF N. J.
(Louisiana Division)
P. O. Box 1250 New Orleans, La.

STANDARD SUPPLY & HARDWARE CO., INC.
822 Tchoupitoulas St.
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during the period were as follows: 30,000 bags of Puerto Ricos, on May 13th, for the second half of May shipment, at 5.05 to Pepsi Cola; 18,000 bags of Puerto Ricos, on May 14th, for the second half of June shipment, at 5.10 to an operator; 2,000 tons of Philippines, on May 18th, for August-September shipment, at 5.15 to American; 25,000 bags of Puerto Ricos, on May 18th, for the first half of June shipment, at 5.10 to American; 2,000 tons of Philippines, on May 19th, for June-July shipment, at 5.15 to an operator; a Cuba cargo with output options, on May 19th, for prompt shipments, at 5.12 to a New Orleans refiner; 15,000 bags of Puerto Ricos, on May 19th, for the first half of July delivery, at 5.1 to an operator; 2,000 tons of Philippines, on May 20th, for June-July shipment, at 5.15 to National; 120,000 bags of Puerto Ricos, on May 20th, for June clearance, at 5.15 to American; 55,000 bags of Puerto Ricos, on May 21st, clearing June 3rd, at 5.15 to Refined Syrups; 3,000 tons of Cubas, on May 21st, for June shipment, at 5.1 New Orleans basis to a New Orleans refiner; 3,000 tons of Philippines, on May 26th, for September-October shipment at 5.25 to an operator; 80,000 bags of Puerto Ricos, on May 27th for the second half of June-first half of July shipment at 5.25 to American and 15,000 bags of raws from St. Croix on May 27th, due June 26th at 5.2 to Sucrest.

CROP NEWS

(Continued from Pafe 261)

"Farmers are really awakening to the fact that Johnson grass is becoming a major pest throughout the Parish. A lot of leading farmers are poisoning and using other methods, such as fallow plowing, to bring it under control. Livestock owners are beginning to use DDT for fly and insect pest control on a large scale. The Parish Police Jury has agreed to supply, free of cost, DDT to charge vats whereby farmers in each community can dip their cattle for pest control."

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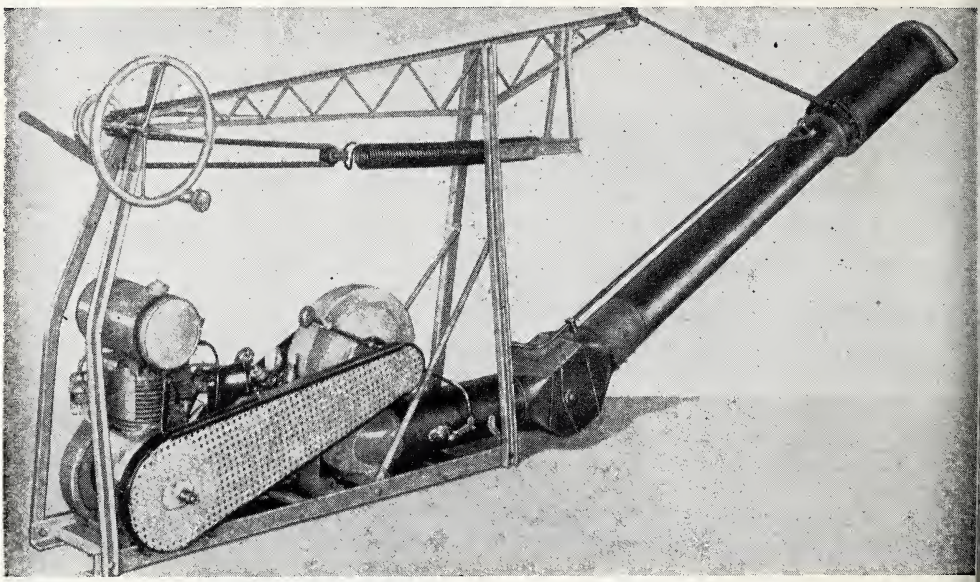
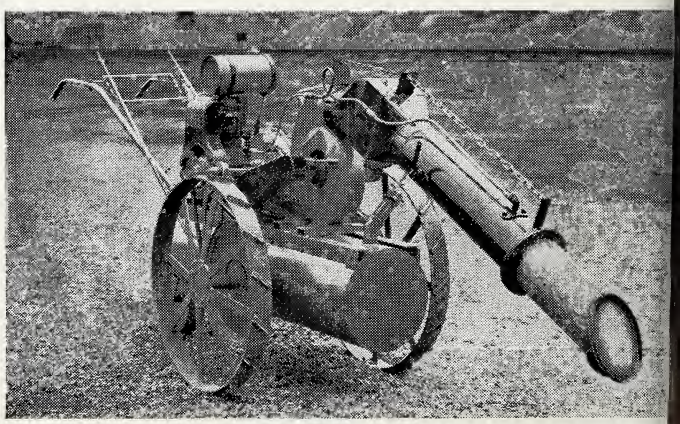


Model "A" Woolery Junior Weed Burner Unit

The Model "A" shown above burns a swath 5 feet wide and has a wide range of adap tability. It may be mounted on a Railroad push car to be towed by a motor car or i can be mounted on a truck, tractor or trailer car and used for burning along high ways, fences, canal banks, irrigation, ditches, etc.



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Its use is not restricted to weed burning alone, as it provides an efficient means for dusting cotton crops, spraying fruit orchards, potatoes or any other crops that come within this category.

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THE SUGAR BULLETIN

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26 NEW ORLEANS, LA., JUNE 15, 1948 No. 18

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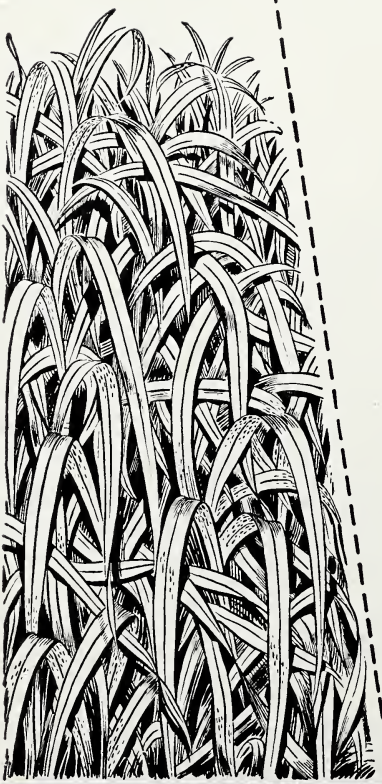

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THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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SOME OBSERVATIONS ON CONDITIONS AFFECTING THE PRODUCTION OF SUGAR IN LOUISIANA

By W. M. Grayson

In order to determine, if possible, the conditions that have affected the production of sugar in sugar mills during the last ten years, we have tabulated figures such as normal juice extraction, sucrose in normal juice, fiber in cane, Boiling House Efficiency, that is, the factors that enter into the production of sugar, and have prepared tables so that a visual comparison could be made.

These tables appearing on pages 277 and 278 cover a period from 1938 through the 1947 crop and very clearly indicate a gradual falling off in the production of sugar per ton of cane from 1942 to the present time. However, during that period the percentage sucrose in normal juice and the purity of normal juice have not changed very much. On the other hand, the fiber in cane, which, as you know, includes leaves, weeds, field mud, and other extraneous matter, has increased appreciably with the advent of mechanical harvesting and the shortage of hand labor.

While the purity of the juice has not been lowered to any great extent, the Boiling House Efficiency has been considerably lowered. This is due to several factors and mud losses, undetermined losses, and increased final molasses losses each have played a part. The large undetermined loss is no doubt due to a large extent on the fact that the weight of the mud extracted in the juice is not taken into account in determining the weight of juice extracted except in those mills provided with juice scales and few factories in Louisiana are provided with juice scales.

As you know, the Boiling House Efficiency Number is a relationship between the actual retention of sugar and a theoretical yield based on some available sugar formula.

For example the 1947 Boiling House Efficiency Number, 93.73, was obtained by dividing 149.1 pounds of actual 96 test sugar obtained by a figure computed as follows:

.7061 (Normal Ext.) x .1233 (normal juice sucrose) x .877 (retention figure for 76.49 purity normal juice) x 2,000 pounds, divided by .96, or $\frac{152.70}{.96}$ equals 159.07, and $\frac{149.1}{159.07}$ equals .9373 B.H.E.

Had the normal extraction been 74.5 as it used to be before the trash situation entered into the picture, the Boiling House Efficiency Number would have been only $\frac{149.1}{167.83}$ or .8883. In other words, the recovery, instead of being 167.83 pounds as it would have been based on a normal extraction of 74.5 and 12.33 normal juice sucrose and B.H.E. of 100, was only 149.1 pounds or 88.83% of that amount.

A glance at the present sucrose in cane shows that it, too, has dropped off from an average of 10.18% from 1938 to 1942 to 9.82% from 1943 to 1947 inclusive. Actual sucrose in cane is probably no different from that of the five year average 1938-1942 but for the fact of field mud and the fictitious result obtained by determining weight of volume and solids in dilute juice.

To carry out the thought that the processor could control the amount of trash entering the factory to his own advantage and increase his production by so doing, 40 factories were selected from the 59 factories grinding in 1947 and separated into three groups. The operating results of these factories were tabulated and a comparison made of their results. Graphs were also, plotted for each group and the same compared with the average of the groups and the State average for the 1947 crop. The selection of the different groups were made on the basis of production; Group Number 1 producing approximately 1 pounds of sugar per ton of cane on t

(Continued on Page 311)

Total for State Factories Year	70 1938	68 1939	66 1940	65 1941	65 1942	65 1943	70 1944	63 1945	60 1946	59 1947
Crop Days	73.30	63.82	39.85	52.35	65.20	82.33	75.65	74.50	66.20	68.50
Lost time % total time	13.43	13.00	15.91	19.63	19.49	24.87	23.74	21.28	19.44	28.42
Cane: Ground (1000 tons)	5,458	5,083	2,923	3,946	4,734	5,388	4,928	5,149	4,483	3,917
% Total Cane Ground	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tons Ground per Hour	53.38	56.10	54.25	55.83	55.27	55.84	51.59	55.40	55.57	55.48
Extraction N. J. % Cane	75.61	75.66	75.16	75.39	74.41	74.87	73.27	73.47	72.32	70.61
Sucrose Extraction, %	91.44 ✓	91.72	91.30	91.74	91.14	90.93	90.13	91.08	90.06	89.06
Saturation % Cane	16.10	15.76	15.00	15.66	17.71	17.07	16.13	13.13	16.02	19.40
Fiber % Cane	13.66	13.57	13.06	13.38	13.99	13.86	14.25	14.17	14.84	15.15
Java Ratio	78.71	78.23	78.19	78.14	77.63	78.17	77.31	76.76	75.82	75.39
Analysis										
Crusher Juice Brix	16.59	16.75	15.81	16.27	16.83	16.77	16.32	16.19	16.50	16.53
Brix Factor (Final)	97.35	97.25	97.22	97.30	97.21	97.08	97.43	97.34	97.21	97.52
Sucrose Factor (Final)	95.20	94.89	94.98	95.07	95.06	94.94	95.05	95.18	94.40	95.14
Normal Juice Brix	16.15	16.29	15.37	15.83	16.36	16.28	15.90	15.76	16.04	16.12
Normal Juice Sucrose	12.50	12.63	11.93	12.14	12.70	12.39	11.93	11.86	12.31	12.33
Normal Juice Purity	77.40	75.53	77.62	76.69	77.63	76.10	75.03	75.25	76.74	76.49
Factory Syrup, Brix	58.88	59.24	58.52	59.68	57.91	58.53	58.08	57.41	57.20	56.92
Residual Juice Brix	6.13	6.22	5.84	5.88	5.93	6.03	6.34	6.40	6.51	6.27
Bagasse Sucrose	3.06	3.04	3.07	2.93	3.07	3.11	3.07	2.97	3.08	3.16
Bagasse Moisture	47.69	47.96	48.94	48.64	49.00	49.09	49.38	48.80	49.23	49.87
Bagasse Fiber	47.44	47.88	46.95	47.56	46.81	46.67	46.29	46.88	46.39	45.69
Press Cake Sucrose	4.76	4.45	3.93	3.78	4.24	4.14	3.81	4.02	3.98	3.86
Sucrose Balance										
Molasses, Sucrose % Cane	1.002	.964	.969	.961	.945	1.067	1.047	1.130	1.001	1.012
Press Cake, Sucrose % Cane	.097	.082	.082	.078	.081	.081	.104	.104	.120	.168
Undetermined, Sucrose % Cane	.220	.179	.141	.183	.198	.253	.266	.212	.297	.365
Bagasse, Sucrose % Cane	.884	.860	.854	.824	.919	.925	.956	.853	.983	1.069
Total Losses, Sucrose % Cane	2.225	2.085	2.046	2.046	2.143	2.326	2.373	2.299	2.401	2.614
Sugar, Sucrose % Cane	8.110	8.328	7.775	7.933	9.229	7.875	7.322	7.266	7.486	7.157
Total, Sucrose % Cane	10.335	10.413	9.821	9.979	10.372	10.201	9.695	9.565	9.887	9.771
Pounds 96° Sugar M&E t/c	168.96	173.68	161.98	165.28	171.44	164.06	152.50	151.37	155.95	149.10
Gallons, Final Molasses, M&E t/c	6.48	6.64	6.28	6.69	6.59	7.16	7.38	7.48	6.74	6.78
Boiling House Efficiency Number	97.16	98.68	98.00	98.69	98.29	97.10	96.64	96.04	95.64	93.73

LOUISIANA MILL REPORTS

Production of Sugars (tons, 2,000 lbs.), Syrup, 1st Molasses, 2nd Molasses, and Blackstrap—1938-1947

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
Raw Sugar 96°	396,955	356,166	177,021	252,176	305,802	316,719	259,324	232,442	180,954	211,305
Clarified	11,161	8,423	1,294	2,731	4,233	17,402	19,892	26,010	28,877	1,378
Turbinados	27,022	23,345	16,373	25,425	25,889	34,262	40,405	56,585	53,162	16,243
Granulated	47,590	45,145	37,464	31,991	51,182	60,663	46,924	42,035	56,633	60,379
Washed Raws	122	939	1,236	7,776	8,694	0	0	0	0	xx0
String—Others	5,781	2,844	1,407	2,144	2,529	2,924	2,834	3,389	1,129	0
Total Sugars (Raw Value)	488,631	436,862	239,095	322,243	398,330	431,970	369,379	375,398	331,128	296,932
Sirup—Gallons	1,531,000	1,824,127	1,567,318	1,705,220	1,802,624	4,458,137	2,684,925	7,920,811	3,098,897	3,118,159
1st Molasses—Gallons	2,256,616	1,896,291	1,224,042	2,142,987	3,301,640	5,936,230	3,661,082	8,832,379	9,596,030	2,179,258
2nd Molasses—Gallons	1,720,463	3,214,954	1,481,536	2,734,639	4,420,460	4,754,073	3,260,918	6,348,928	3,993,164	2,966,514
Blackstrap—Gallons	34,379,122	27,891,109	15,384,342	21,560,072	23,103,373	30,887,281	28,716,392	28,456,351	21,231,304	21,676,476

xx Included in clarified production.

CROPLAND—PROPORTIONATE SHARE—PLANTED ACRES OF LOUISIANA SUGARCANE FARMS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES, FROM A.. A. A. REPORTS

PARISHES	Cropland (Acres)				Proportionate Shares (Acres)				Total Planted (Acres)			
	1943	1944	1945	1946	1943	1944	1945	1946	1943	1944	1945	1946
Ascension	27,709	27,013	27,031	25,412	10,897	10,426	7,160	10,899	10,909	10,559	11,153	12,310
Assumption	44,998	44,646	44,394	45,164	25,913	25,307	25,868	25,569	25,994	25,768	26,531	28,140
Avoyelles	12,415	12,340	8,699	7,900	2,817	2,593	1,100	1,511	2,908	2,661	2,320	2,181
East Baton Rouge	1,015	934	823	822	388	327	249	218	388	327	249	232
Iberia	81,504	81,523	77,191	75,478	34,048	32,687	30,901	29,652	35,545	33,593	34,190	35,826
Iberville	48,266	47,818	46,724	46,938	22,359	20,182	20,864	19,084	23,433	21,615	21,917	22,366
Lafayette	49,724	39,804	34,001	30,729	11,562	10,821	9,442	8,624	11,837	11,001	9,623	10,019
Lafourche	53,194	52,681	52,770	54,410	23,504	22,244	23,536	23,646	23,504	22,244	23,562	25,700
Pointe Coupee	44,710	41,704	38,567	35,991	11,796	11,056	10,170	9,916	11,802	11,056	10,535	11,316
Rapides	14,349	10,712	7,112	3,999	1,526	1,280	993	1,052	1,749	1,387	1,201	1,245
St. Charles	3,876	4,463	4,559	4,271	1,105	1,302	1,225	1,518	1,602	1,492	1,494	1,659
St. James	31,560	31,318	31,381	31,339	13,361	13,489	14,310	15,215	13,361	13,501	14,905	16,422
St. John	27,220	26,007	25,649	25,370	13,519	13,632	13,630	12,642	14,467	14,019	14,530	14,778
St. Landry	10,518	9,543	7,450	5,339	1,535	1,288	1,036	837	1,690	1,353	1,151	948
St. Martin	56,942	56,734	47,709	48,022	16,188	15,700	12,606	13,145	17,792	16,645	15,424	17,085
St. Mary	55,662	56,539	56,858	56,911	30,985	29,781	30,359	30,397	31,146	29,815	31,371	33,723
Terrebonne	60,513	58,225	58,197	57,716	33,307	32,220	33,268	31,601	34,059	32,423	33,273	34,521
Vermilion	41,196	33,035	23,417	23,035	8,407	7,602	3,388	4,848	9,135	8,166	5,849	6,369
West Baton Rouge	30,849	30,333	29,032	27,608	15,093	12,883	12,825	11,551	15,413	14,040	14,154	14,567
West Feliciana	12,625	12,827	12,656	12,655	4,006	3,714	3,614	3,547	4,242	3,848	3,823	3,960
TOTAL	708,868	678,229	634,220	619,118	282,231	268,534	256,544	255,479	290,986	275,513	277,255	293,376

PROPORTIONATE SHARE ACRES HARVESTED FOR SUGAR—YIELD OF SUGARCANE PER ACRE AND YIELD OF RECOVERABLE SUGAR PER ACRE OF LOUISIANA FARMERS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES FROM A. A. A. REPORTS

PARISHES	Proportionate Shares Harvested for Sugar (Acres)				Yield of Cane Per Acre Tons				Yield of Recoverable Sugar per Acre CWT			
	1943	1944	1945	1946	1943	1944	1945	1946	1943	1944	1945	1946
Ascension	10,075	9,583	6,306	11,698	19.25	17.91	21.56	17.61	32.57	28.45	33.55	29.81
Assumption	24,027	23,329	23,890	27,570	22.10	23.35	24.65	18.00	38.15	37.15	38.73	30.32
Avoyelles	2,752	2,545	935	1,694	19.14	15.80	18.71	14.84	33.36	25.45	29.01	23.86
East Baton Rouge	366	307	235	232	18.31	18.62	21.87	20.84	31.73	28.95	36.04	33.33
Iberia	30,553	29,691	27,848	32,619	19.86	19.02	21.21	17.03	33.51	31.11	34.42	28.43
Iberville	19,974	18,050	18,852	21,249	21.78	20.09	21.50	18.99	37.18	32.92	34.37	30.78
Lafayette	10,066	9,332	8,572	9,569	17.14	16.08	19.08	15.29	29.88	26.80	33.22	27.10
Lafourche	22,060	20,782	22,061	25,693	21.34	22.21	23.23	17.91	36.65	35.01	37.18	31.14
Pointe Coupee	10,852	10,347	9,453	10,723	21.58	18.70	18.66	17.58	36.72	31.67	31.42	29.36
Rapides	1,462	1,219	920	1,127	15.50	24.63	25.38	22.76	44.76	40.00	40.96	38.15
St. Charles	1,019	1,156	909	1,659	18.04	19.15	20.00	13.95	31.42	31.07	30.94	22.20
St. James	12,441	12,537	12,905	16,331	22.73	21.18	23.84	17.95	37.51	32.89	35.93	30.82
St. John	12,434	12,420	12,399	13,777	21.92	19.96	20.42	17.32	37.00	32.50	31.66	30.57
St. Landry	1,487	1,273	912	934	21.12	17.70	15.23	14.50	35.51	30.66	24.83	23.26
St. Martin	14,282	14,584	11,302	14,974	20.83	19.16	21.09	17.22	33.77	30.27	34.00	28.38
St. Mary	27,762	26,996	27,356	33,501	21.32	20.73	22.43	17.05	36.25	34.21	36.84	29.71
Terrebonne	31,043	29,625	30,899	34,498	20.32	20.06	21.98	16.85	33.51	31.35	34.38	28.98
Vermilion	7,357	6,912	2,841	5,290	19.47	15.43	19.66	14.03	32.51	25.04	32.46	23.63
West Baton Rouge	13,414	11,716	11,781	12,681	20.27	18.42	19.79	17.84	33.39	30.14	32.17	30.32
West Feliciana	3,814	3,542	3,448	3,747	24.11	22.94	23.98	24.40	38.36	35.78	40.45	39.61
TOTAL	257,256	245,946	233,824	279,575	20.88	20.00	21.96	17.60	35.22	32.21	35.17	29.49

REPORT ON NEW SUGAR CANE VARIETIES

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Louisiana Sugar Experiment Station
May 4, 1948

The varietal program of the Louisiana ugar Experiment Station is progressing ery satisfactorily. During the past fall, fter conferences with the Agronomists nd Pathologists of the U.S.D.A. sta- on, Houma, it was agreed that both tations would send out to their re- pective test fields the following eight ew sugar cane varieties:

C.P. 44-92	C.P. 45-125
C.P. 45- 73	C.P. 45-137
C.P. 45-119	C.P. 45-155
C.P. 45-122	C.P. 45-184

This Station in cooperation with the .S.D.A. Station, Houma, and the merican Sugar Cane League, have had operation for the past several years primary seed increase stations on Southdown and Smithfield plantations. A third primary increase station was started during the fall of 1947 on Orange Grove plantation, New Iberia, Louisiana. Supplies of seed cane necessary for setting up the new station were supplied jointly by the Louisiana Sugar Experiment Station and the U.S. D.A. Station, Southdown and Smithfield were also drawn on for seed supplies of several varieties which they have under extensive increase.

This Station sent to Smithfield plantation last fall seed cane of a total of forty-one new varieties.

As the seed increase program now stands, promising varieties through the

TABLE I
COMPARISON OF ANALYSES
1947 Test Field Introductions
(Milled on Station Mill, approx. 60% extraction)
Plant Cane

Date	Brix	Sucrose	Purity	Average Stalk Weight (Lbs.)	Height in feet Mill cane
-3-47	12.30	7.37	59.92	7	**C. P. 44-92**
-16-47	13.90	9.88	71.08		
-5-47	15.50	11.41	73.61		Sl. crooked
-18-47	16.80	13.58	80.83	.97	3.00 – 3.50
-3-47	17.40	13.74	78.97		**C. P. 45-73**
-17-47	16.70	12.95	77.54		
-5-47	18.20	14.55	79.95		Sl. crooked
-18-47	17.60	14.26	81.02	.98	3.00 – 3.50
-4-47	15.20	11.20	73.68		**C. P. 45-119**
-17-47	16.80	12.61	75.06		
-5-47	18.60	14.79	79.52		Sl.—some cr.
-18-47	17.80	14.79	83.09	.91	3.50 – 4.50
-3-47	11.20	6.67	59.55		**C. P. 45-122**
-17-47	13.70	8.65	63.14		
-5-47	-----	-----	-----		Sl. crooked
-18-47	14.90	10.78	72.35	1.08	3.00 – 3.50
-3-47	14.60	11.44	78.36		**C. P. 45-125**
-17-47	16.50	13.13	79.58		
-5-47	17.60	14.77	83.92		Sl.—some cr.
-18-47	16.80	14.07	83.75	.70	2.50 – 3.00
-3-47	14.60	9.96	68.22		**C. P. 45-137**
-17-47	16.40	12.08	73.66		
-5-47	17.30	13.25	76.59		Sl.—some cr.
-18-47	16.90	13.39	79.23	1.12	3.50 – 4.50
-4-47	13.70	8.50	62.04		**C. P. 45-155**
-17-47	16.90	12.77	75.56		
-5-47	16.80	12.69	75.54		Some crooked
-18-47	-----	-----	-----	1.05	3.00 – 4.50
-3-47	14.30	9.37	65.52		**C. P. 45-184**
-17-47	15.90	11.14	70.06		
-5-47	16.70	12.27	73.47		Sl.—some cr.
-18-47	-----	-----	-----	1.26	3.00 – 4.50

TABLE II
COMPARISON OF ANALYSES
1947 Test Field Introductions
(Milled on Station Mill, approx. 60% extraction)
First Stubble Cane

Date	Brix	Sucrose	Purity	Average Stalk Weight (Lbs.)	Height in feet Mill cane
10-3-47	14.70	10.68	72.65		**C. P. 44-92**
10-16-47	16.00	13.73	85.81		
11-5-47	16.60	13.44	80.96		Sl. crooked
11-12-47	17.00	14.07	82.76	1.10	3.50 – 4.50
10-4-47	16.30	12.08	74.11		**C. P. 45-73**
10-16-47	15.80	11.68	73.92		
11-5-47	16.70	12.54	75.09		Sl.—some cr.
11-14-47	17.60	13.83	78.58	1.29	3.50 – 4.25
10-4-47	15.80	11.30	71.52		**C. P. 45-119**
10-16-47	17.70	13.98	78.98		
11-5-47	-----	-----	-----		Sl. crooked
11-14-47	17.90	14.95	83.52	1.11	3.50 – 4.50
10-4-47	12.30	9.50	77.24		**C. P. 45-122**
10-16-47	13.50	8.16	60.44		
11-5-47	14.90	10.45	70.13		Some crooked
11-13-47	15.10	11.20	74.16	1.42	3.50 – 4.75
10-3-47	15.80	12.86	81.39		**C. P. 45-125**
10-16-47	16.20	13.09	80.80		
11-5-47	-----	-----	-----		Some coroked
11-15-47	16.60	14.54	87.58	1.24	3.50 – 4.50
10-4-47	15.60	10.93	70.06		**C. P. 45-137**
10-16-47	17.10	13.52	79.06		
11-5-47	19.20	15.40	80.21		Sl. crooked
11-12-47	18.70	15.33	81.98	1.25	4.00 – 5.00
10-4-47	14.40	9.98	69.31		**C. P. 45-155**
10-16-47	15.60	11.79	78.58		
11-5-47	16.00	11.88	74.25		Sl. crooked
11-13-47	16.30	13.12	80.49	1.36	4.50 – 5.25
10-4-47	14.00	9.77	69.79		**C. P. 45-184**
10-16-47	15.30	11.39	74.44		
11-5-47	18.20	14.62	70.33		Very sl. cr.
11-13-47	17.70	14.58	82.36	1.32	4.00 – 5.00

1946 series are now on all three primary increase stations.

In tables I and II are given comparative sucrose analyses and other data on plant cane and first year stubble of the eight new varieties sent to the test fields last fall.

In tables III and IV are given comparative sucrose analyses and other data, including yields, on plant cane. Included are data for standard varieties, those most recently released, and promising unreleased varieties.

In tables V and VI are given similar data for first year stubble, and in table VII for second year stubble.

Because of the summer drought of the past season, yields on the Sugar Station were low in 1947; this fact must be considered in comparing the yielding ability of the varieties.

The relative performances of the three varieties released during the past fall, C.P. 34-92, C.P. 36-19 and C.P. 36-183 are shown in the tables. Each of these varieties has desirable characteristics, but at this time neither of the three is considered to be in the class of a major sugar cane.

Of the unreleased varieties, from an agronomic standpoint, the following are considered to be promising.

C.P. 36-178	C.P. 43-3	C.P. 44-10
C.P. 36-179	C.P. 43-9	C.P. 44-15
C.P. 36-197	C.P. 43-28	C.P. 44-15
	C.P. 43-33	
	C.P. 43-47	

Because of the slowness of germination of the stubbles of C.P. 37-5, this spring, although during the past several years it had shown considerable promise, C.P. 37-5 is not listed.

* Assisted by F. W. Berthelot, Jr.

TABLE III
PLANT CANE COMPARISON
Harvested 11-24-47
(Milled on Station Mill, approx. 60% extraction)

Variety	Brix	Sucrose	Purity	Height Mill Cane	Av. Stk. Wt.	Tons per Acre
C.P. 43-9	16.3	13.23	81.17	Sl. crooked 6.00 - 6.75	1.69	27.91
Co. 290	16.8	13.57	80.77	Very sl. cr. 5.00 - 6.00	1.68	26.86
C.P. 36-179	16.4	12.98	79.14	Some cr. 5.00 - 5.75	1.63	25.01
C.P. 36-178	17.9	15.14	84.57	Some cr. 5.00 - 6.00	1.43	24.32
C.P. 43-3	16.4	12.93	78.84	Some cr. 5.00 - 6.00	1.75	23.30
C.P. 44-155	17.8	14.97	84.10	Sl. some cr. 5.00 - 6.50	1.78	23.23
C.P. 34-120	16.6	13.30	80.11	Sl. crooked 5.00 - 6.00	1.61	21.74
C.P. 43-33	18.8	16.18	86.06	Sl. crooked 4.50 - 5.25	1.33	21.49
C.P. 43-47	16.8	13.51	80.42	Sl. crooked 5.00 - 5.25	1.46	21.31
C.P. 29-320	18.6	15.68	84.30	Sl. some cr. 6.00 - 6.75	1.71	21.20
C.P. 36-183	17.1	14.00	81.87	Sl. crooked 5.00 - 6.00	1.72	21.05
C.P. 29-116	17.2	13.74	79.88	Sl. crooked 5.00 - 6.00	2.09	21.05
C.P. 36-197	17.7	15.31	86.50	Cons. cr. 4.50 - 5.00	1.22	20.55
C.P. 37-5	17.1	14.17	82.86	Sl. crooked 5.00 - 5.50	1.53	18.59
C.P. 38-26	18.0	15.04	83.56	Sl. crooked 4.50 - 5.25	1.26	17.17
C.P. 36-105	18.0	15.11	83.94	4.00 - 5.00	1.23	15.68
C.P. 36-13	16.6	13.37	80.54	Sl. some cr. 4.00 - 4.75	1.54	15.68
C.P. 36-19	17.8	14.89	83.65	Sl. crooked 5.00 - 5.50	1.32	15.32
C.P. 36-203	17.9	14.89	83.18	Sl. some cr. 4.50 - 5.50	1.75	14.34
Co. 281	17.7	14.82	83.72	3.50 - 4.50	0.95	14.19
C.P. 29-120	17.7	15.26	86.21	Str. 3.50 - 4.00	0.93	10.67

TABLE IV
PLANT CANE COMPARISON (SMALL PLOTS)
Harvested 11-21-47
(Milled on Station Mill, approx. 60% extraction)

Variety	Brix	Sucrose	Purity	Height Mill Cane	Av. Stk. Wt.	Tons per Acre
C.P. 36-111	15.3	11.00	71.87	Sl. crooked 4.50 - 5.00	1.84	25.1
C.P. 36-80	16.4	12.87	78.45	Sl. crooked 4.00 - 4.75	1.75	23.9
C.P. 43-49	15.4	11.79	76.55	Sl. crooked 4.50 - 5.25	1.60	21.3
C.P. 34-92	17.5	13.51	77.19	Very sl. cr. 4.00 - 5.00	1.43	20.0
C.P. 29-320	17.1	13.81	80.75	Sl. crooked 4.75 - 5.50	1.41	19.8
C.P. 44-153	16.7	12.46	74.61	Very sl. cr. 4.00 - 4.75	1.38	19.1
C.P. 43-32	17.0	13.69	80.52	Some cr. 5.00 - 5.75	1.57	18.3
C.P. 44-72	18.2	15.30	84.06	Sl. crooked 4.50 - 5.00	1.24	18.0
C.P. 44-101	17.3	13.98	80.80	Very sl. cr. 4.00 - 4.75	1.64	17.3
C.P. 43-28	15.9	12.49	78.55	Sl. crooked 4.50 - 5.00	1.49	17.1
C.P. 34-120	17.1	13.64	79.77	Very sl. cr. 5.00 - 6.00	1.54	16.7
C.P. 33-243	18.5	15.78	85.29	Sl. crooked 3.50 - 4.50	1.64	15.9
C.P. 43-13	16.06	12.917	7.76	Very sl. cr. 3.25 - 5.00	1.21	15.7
C.P. 29-116	17.1	13.49	78.88	Sl. crooked 4.00 - 5.00	1.76	15.4
F. 36-819	18.1	15.34	83.65	Some cr. 3.00 - 3.75	1.79	13.3
C.P. 44-69	18.1	15.23	84.14	Sl. crooked 3.25 - 3.75	0.96	12.1
C.P. 29-103	20.1	17.63	87.77	Sl. crooked 3.25 - 4.00	1.69	11.4
C.P. 33-425	18.7	15.54	83.10	Very sl. cr 3.50 - 4.25	1.24	10.9
C.P. 36-161	17.0	13.81	81.22	Sl. crooked 3.50 - 4.25	1.30	9.8
F. 36-671	18.2	15.30	84.06	Some cr. 3.00 - 3.25	0.94	9.3
C.P. 29-120	18.5	16.09	86.96	Very sl. cr. 3.25 - 3.75	1.08	7.8
F. 31-762	18.2	15.47	85.00	Sl. crooked 3.50 - 4.00	1.11	6.7
C.P. 28-11	18.4	14.57	79.18	Sl. crooked 3.00 - 3.25	0.79	6.3
C.P. 44-51	18.1	14.98	82.75	Str. 3.00 - 3.50	0.65	6.0
C.P. 28-19	19.1	15.70	82.19	Cons. cr. 3.00 - 4.00	0.82	5.9
C.P. 33-310	18.6	14.67	78.87	Very sl. cr. 3.25 - 3.75	1.17	5.3

(Continued on Page 313)

SUGAR CANE TEST FIELDS--SEASON OF 1947

By C. B. Gouaux, Associate Agronomist, Louisiana State University and Agricultural and Mechanical College, Agricultural Experiment Stations, W. G. Taggart, Director

Season of 1947

The season of 1947 was extremely nfavorable for sugar cane production Louisiana. The freezes of February, ne very wet and cold month of March, ne long summer drouth and the hurri- ane of September 19, were the prin- pal causes for the marked reduction field yields which occurred at all of ne test fields.

For the past four years, C. P. 34-120, hich was released for commercial lanting in 1942, has been the top rank- ng variety. In the season of 1947 it owed a comparatively low rating, hav- ng succumbed more to adverse winter onditions than some of the other varie- es.

Co. 290, another important commer- al variety in the Teche and Western ections, behaved similarly to the C. P. 4-120, in the variety standings, rank- ng low at the Caffery, Billeaud and oungsville test fields.

Test Fields

At the eight established test field loca- ons of the Louisiana Experiment Sta- on, there was a total of twenty-four xperimental fields, consisting of nine ll plant cane, nine first stubble and six econd stubble fields, all located on rep- esentative soil types of the five cane rowing sections of the state. On these elds, there was a total of thirty-seven arieties, consisting of twelve commer- ial canes and twenty-five unreleased arieties.

Test fields were fertilized and culti- ated according to the regular field ethods of cooperators. All of the mportant procedures in connection with ne work, such as, planting of varieties, arvesting and weighing main plot tests n plantation scales, big mill and small ill testing and laboratory juice analy- es, were under Experiment Station upervision with cooperators providing ne necessary facilities for the work. Harvesting and final results of the twenty-four experimental fields were ob- tained during the milling season, from October 25, through December 20.

A total of nine new sugar cane vari- ety experimental fields were planted at the eight test field locations. Eight of the fields are on the Yazoo soil type, while one field is on the Sharkey soil type. All plantings were performed in the fall, from September 15 through October 10.

In the main plot tests, an average of five commercial canes, and eight prom- ising unreleased varieties were planted at each test field.

In the introductory plots, the follow- ing eight new varieties were planted at the Cinclare, Glenwood, Reserve, Meek- er, Shirley, Caffery, Billeaud and Youngsville test fields: C. P. Nos. 45- 73, 45-92, 45-119, 45-122, 45-125, 45- 137, 45-155 and 45-184. The small lots of seed cane of these eight varieties were grown at the L. S. U. Sugar Ex- perimental Station, and were taken in cooperators' trucks to the test fields.

In the 1946 introductory new varie- ties, C. P. Nos. 44-101, 44-153 and 44- 155, were the most outstanding in this lot of seven plant cane varieties. All of the available seed cane was utilized in making larger plot plantings of these three promising canes.

In the series of seven new Canal Point seedling canes planted on an in- troductory basis in the fall of 1945, the following three are showing fine field performance: 43-3, 43-9 and 43-47. While others are giving fair response at some of the test fields, like C. P. 43-28 in the Teche and Western sections, C. P. 43-32 at Youngsville and C. P. 43-33 at Cinclare and Meeker.

C. P. 37-5, another promising unre- leased variety made an excellent show- ing on the three test fields of the upper and lower Mississippi river sections.

CINCLARE TEST FIELD

Variety	Normal Juice			Tons per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Yazoo)							
C. P. 43-33	18.64	15.67	84.07	25.41	$8.57	$217.76	$186.00
C. P. 37-5	17.24	14.14	82.02	29.03	7.58	220.05	183.76
C. P. 43-28	16.67	13.43	80.56	28.37	7.12	201.99	166.53
C. P. 43-47	17.24	14.20	82.37	26.01	7.62	198.20	165.69
C. P. 29-120	17.54	14.47	82.50	24.23	7.79	188.75	158.46
C. P. 36-203	18.24	14.73	80.76	23.08	7.96	183.72	154.87
C. P. 36-13	17.47	14.84	84.95	22.65	8.03	181.88	152.57
C. P. 29-320	17.24	14.49	84.05	21.98	7.81	171.66	144.18
C. P. 36-105	17.43	15.03	86.23	20.71	8.16	168.99	143.10
F. 36-819	16.37	14.13	86.32	21.45	7.57	162.38	135.57
C, P. 34-120	17.18	14.11	82.13	21.41	7.56	161.86	135.00
C. P. 43-49	14.86	10.74	72.27	27.88	5.52	153.90	119.05
Fall Plant Cane (Sharkey)							
C. P. 34-120	17.83	13.88	77.85	13.04	7.41	96.63	80.33
C. P. 33-224	15.40	11.78	76.49	14.70	6.51	95.70	77.32
C. P. 36-191	14.56	10.99	75.48	14.45	5.85	84.53	66.47
C. P. 36-105	15.98	12.54	78.47	12.14	6.54	79.40	64.22
C. P. 36-203	15.98	12.75	79.79	11.53	6.67	76.91	62.50
C. P. 36-13	15.47	12.29	79.44	10.98	6.51	71.48	57.75
C. P. 37-5	15.96	12.55	78.63	10.90	6.54	71.29	57.66
C. P. 36-197	16.17	14.01	86.64	9.07	7.49	67.93	56.59
F. 36-819	15.98	12.77	79.91	9.44	6.69	63.15	52.35
First Stubble (Yazoo)							
C. P. 29-320	18.45	15.25	82.66	15.21	8.30	126.24	107.23
C. P. 36-105	18.13	13.90	76.67	17.19	7.42	127.55	106.06
C. P. 36-13	16.90	13.98	82.72	16.99	7.47	126.92	105.68
C. P. 29-120	18.23	15.05	82.56	14.92	8.17	121.90	103.25
C. P. 36-183	16.89	13.69	81.05	14.70	7.28	107.02	88.64
F. 36-819	17.58	15.03	85.49	11.49	8.16	93.76	79.40
C. P. 34-120	17.68	14.10	79.75	10.42	7.55	78.67	65.64
First Stubble (Sharkey)							
C. P. 33-224	16.47	12.78	75.77	13.18	6.69	88.17	71.69
C. P. 36-105	17.04	13.83	81.16	10.85	7.38	80.07	66.51
C. P. 34-21	17.11	13.69	80.01	9.54	7.28	69.45	57.52
C. P. 34-139	16.27	12.36	75.97	10.17	6.51	66.21	53.50
C. P. 36-13	16.72	13.29	79.49	7.88	7.02	55.32	45.47
C. P. 29-116	16.05	11.57	72.09	6.48	6.51	42.18	34.08
C. P. 34-120	16.05	12.11	75.45	5.30	6.51	34.50	27.87
Second Stubble (Yazoo)							
C. P. 36-105	17.78	14.80	83.24	17.39	8.01	139.29	117.55
C. P. 29-320	17.78	14.43	81.16	13.52	7.77	105.05	88.15
C. P. 34-92	17.91	14.14	78.95	13.56	7.58	102.78	85.83
C. P. 29-120	17.47	14.53	83.17	12.71	7.83	99.52	83.63
C. P. 36-13	16.53	13.45	81.37	14.13	7.13	100.75	83.09
C. P. 36-183	16.50	13.45	81.52	13.52	7.13	96.40	79.50
C. P. 34-120	16.53	12.74	77.07	13.04	6.67	86.98	70.68

CINCLARE TEST FIELD

Fall Plant Cane (Yazoo and Sharkey soils); Planted September 20, 1946, and cut by hand and stripped November 19-20, 1947. Loading, hauling into railroad cars, weighing and big mill tests at Cinclare Central Factory on November 20-21, 1947.

C. P. Nos. 43-28, 43-49, 36-191, and 36-197 were very badly lodged.

Four unreleased varieties showed up best on Yazoo soil, outranking C. P. 29-120 the highest ranking commercial cane; while C. P. 36-13 and C. P. 29-320 both surpassed C. P. 36-105 and C. P. 34-120.

On the Sharkey soil plant cane field, C. P. 34-120 and C. P. 33-224 showed the best response. C. P. 36-105 ranked fourth, while the other six varieties showed very little promise.

First Stubble (Yazoo and Sharkey soils); Planted Sept. 18, 1945. Harvesting dates: 11/19/46 and 10/28/47. All varieties were cut and stripped by hand on October 27, 1947. Weighing and mill tests of fourteen varieties at Cinclare Central Factory on October 28, 1947.

On Yazoo soil, C. P. 29-320 was the leading variety, followed in order by C. P. 36-105, C. P. 36-13 and C. P. 29-120. In the Sharkey soil tests, C. P. 33-324 (unreleased) and C. P. 36-105, were the two highest ranking varieties. C. P. 34-120 ranked lowest in both the Yazoo and Sharkey soil tests.

Second Stubble (Yazoo soil); Planted Sept. 21, 1944. Harvesting dates: 11/21/45, 10/29/46 and 10/28/47. All varieties cut and stripped by hand on October 27, 1947. Weighing of cars and mill tests of seven varieties at Cinclare Central Factory on October 28, 1947.

C. P. 36-105 repeated its performance of last year in being the leading second stubble variety. C. P. 29-320 ranked second, followed by C. P. 34-92 and C. P. 29-120. The lowest ranking variety was C. P. 34-120.

GLENWOOD TEST FIELD

Variety	Normal Juice			Tons per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Yazoo Soil)							
C. P. 43-3	16.62	12.71	76.47	33.28	$6.65	$221.31	$179.71
C. P. 43-47	16.84	13.77	81.77	26.88	7.34	197.30	163.70
C. P. 37-5	16.48	13.21	80.16	26.28	6.97	183.17	150.32
C. P. 36-197	16.07	12.93	80.46	23.83	6.79	161.81	132.02
C. P. 43-9	16.33	12.60	77.16	24.02	6.58	158.05	128.02
C. P. 34-120	17.00	13.52	79.53	21.23	7.17	152.22	125.68
F. 36-819	17.05	14.12	82.82	19.52	7.56	147.57	123.17
C. P. 36-183	16.17	12.99	80.33	21.70	6.83	148.21	121.08
C. P. 36-105	17.40	13.53	77.76	19.49	7.18	139.94	115.58
C. P. 36-13	16.36	13.05	79.77	20.00	6.87	137.40	112.40
C. P. 36-203	17.59	13.72	78.00	17.60	7.30	128.48	106.48
C. P. 36-19	17.30	13.51	78.09	16.64	7.17	119.31	98.51
C. P. 29-120	16.04	11.97	74.63	18.22	6.51	118.61	95.83
F. 36-671	15.78	12.36	78.33	16.68	6.51	108.59	87.74
First Stubble (Yazoo Soil)							
C. P. 43-3	16.94	13.02	76.86	23.73	6.85	162.55	132.89
C. P. 36-183	17.77	13.54	76.20	21.67	7.19	155.81	128.72
C. P. 37-5	14.80	10.97	74.12	27.82	5.82	161.91	127.13
C. P. 36-105	16.78	13.16	78.43	20.95	6.94	145.39	119.20
C. P. 43-9	15.59	10.95	70.24	26.15	5.79	151.41	118.72
C. P. 43-47	15.97	11.30	70.76	23.24	6.25	145.25	116.20
C. P. 36-13	16.10	11.42	70.93	19.92	6.41	127.69	102.79
F. 36-819	15.30	11.43	74.71	18.15	6.42	116.52	93.83
C. P. 29-120	15.40	11.35	73.70	17.40	6.31	109.79	88.04
C. P. 34-120	14.76	10.78	73.04	19.24	5.57	107.17	83.12
C. P. 29-320	16.36	10.68	65.28	18.79	5.44	102.22	78.73

GLENWOOD TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Second Stubble (Yazoo Soil)							
C. P. 34-120	16.12	11.45	71.03	18.95	6.51	123.36	99.67
C. P. 36-105	17.79	13.77	77.40	16.25	7.34	119.28	98.97
C. P. 36-13	16.26	12.09	74.35	18.72	6.51	121.87	98.47
C. P. 36-191	16.50	11.95	72.42	18.20	6.51	118.48	95.73
C. P. 34-92	17.11	12.35	72.18	16.90	6.51	110.02	88.89
C. P. 36-183	15.66	10.66	68.07	18.66	5.42	101.74	77.81
C. P. 29-120	16.44	11.79	71.72	13.12	6.51	85.41	69.01

Fall Plant Cane (Yazoo soil); Planted October 3, 1946, and harvested by hand, top and bottom and burned, November 29 to December 2, 1947. Weighing and mill tests of fourteen varieties at Glenwood Factory on December 3, 1947.

The following field notes and observations were made on the effects of the September 19 hurricane on plant cane varieties: C. P. 36-183 and 36-197 were very badly lodged. C. P. 36-13, 36-105, 29-120 and 34-120 were slightly crooked and leaning. C. P. 36-19 were crooked with considerable amount of broken tops. C. P. 43-3, 43-9, 43-47 and 37-5 were only slightly leaning and fairly erect.

Five unreleased varieties ranked ahead of C. P. 34-120, the highest ranking commercial cane. Then F. 36-819, another unreleased variety exceeded the three commercial canes, C. P. Nos. 36-183, 36-105 and 36-13.

C. P. 36-19 was slightly ahead of C. P. 29-120, with both varieties making about the poorest showing.

First Stubble (Yazoo soil); Planted October 4, 1945. Harvesting dates: 11/21/46 and 11/15/47. All varieties cut by hand, top and bottom and burned October 28, 1947. Weighing and mill tests of eleven varieties at Glenwood Factory October 29, 1947.

The following varieties were badly damaged by cane borers: C. P. Nos. 37-5, 43-9, 43-37, 36-13, 34-120, 291-20, 29-320 and F. 36-819.

Four unreleased varieties surpassed C. P. 36-183, fifth ranking variety. C. P. 36-105, C. P. 36-13 and C. P. 34-120 were the next three highest ranking varieties. F. 36-819 made the poorest showing.

Second Stubble (Yazoo soil); Planted Sept. 22, 1944. Harvesting dates: 12/4/45, 11/4/46 and 10/28/47. All varieties cut by hand, top and bottom and burned October 27, 1947. Weighing and mill tests of seven varieties at Glenwood Factory on Oct. 28, 1947.

C. P. 34-120 was the leading variety, followed by C. P. 36-105 and C. P. 36-13. Other varieties ranked as follows: (4) C. P. 36-191, (5) C. P. 34-92, (6) C. P. 36-183 and (7) C.P. 29-120.

RESERVE TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Yazoo Soil)							
C. P. 37-5	16.19	13.09	80.85	31.68	$6.89	$218.28	$178.68
C. P. 43-32	15.83	12.69	80.16	29.57	6.63	196.05	159.09
C. P. 34-120	15.71	12.64	80.46	27.54	6.60	181.76	147.33
C. P. 36-105	15.86	12.71	80.14	27.10	6.65	180.22	146.34
C. P. 36-13	15.54	12.25	78.83	26.99	6.51	175.70	141.96
C. P. 43-3	16.19	12.49	77.15	26.87	6.51	174.92	141.33
C. P. 36-183	15.80	12.50	79.11	25.81	6.51	168.02	135.76
C. P. 43-47	15.35	12.03	78.37	25.68	6.51	167.18	135.08

RESERVE TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Yazoo Soil)							
C. P. 43-33	15.93	12.80	80.35	24.44	6.71	163.99	133.44
C. P. 36-203	16.32	13.15	80.58	21.37	6.93	148.09	121.38
C. P. 43-9	16.19	12.45	76.90	21.63	6.51	140.81	113.77
C. P. 29-120	16.35	13.15	80.43	18.54	6.93	128.48	105.30
C. P. 36-197	15.71	12.46	79.31	18.35	6.51	119.46	96.52
C. P. 36-19	15.35	12.16	79.22	16.45	6.51	107.09	86.53
First Stubble (Yazoo Soil)							
C. P. 36-105	15.77	13.01	82.50	33.31	6.84	227.84	186.20
C. P. 36-183	15.02	12.46	82.96	31.41	6.51	204.48	165.22
C. P. 29-320	16.03	13.34	83.22	20.07	7.06	141.69	116.60
F. 36-671	15.51	12.49	80.53	22.12	6.51	144.00	116.35
C. P. 36-13	15.51	12.91	83.24	21.01	6.78	142.44	116 18
C. P. 43-47	15.83	13.33	84.21	19.22	7.05	135.50	111.47
F. 36-819	14.73	11.68	79.29	20.73	6.51	134.95	109.04
C. P. 34-120	14.24	10.94	76.83	23.17	5.78	133.92	104.96
C. P. 29-120	12.71	8.91	70.10	18.42	Salvage	----	----
Second Stubble (Yazoo Soil)							
C. P. 36-197	14.34	11.54	80.47	28.42	6.51	185.01	149.48
C. P. 37-5	16.13	13.55	84.00	23.46	7.19	168.68	139.35
C. P. 34-120	14.66	11.21	76.47	22.83	6.13	139.95	111.41
C. P. 36-13*	-----	10.84	-----	23.53	5.65	132.94	103.53
C. P. 36-183*	-----	10.84	-----	22.57	5.65	127.52	99.31
C. P. 36-105*	-----	11.22	-----	18.68	6.15	114.88	91.53
C. P. 29-120	14.24	11.47	80.55	17.37	6.47	112.38	90.67
C. P. 29-320*	-----	11.36	-----	17.35	6.33	109.83	88.14

(*) Very muddy juice samples; no Brix taken.

Fall Plant Cane (Yazoo soil): Planted October 4, 1946, and harvested by hand, top and bottom and burned December 1-2, 1947. Weighing and mill tests of fourteen varieties at Reserve Factory December 4, 1947.

In the plant cane tests, C. P. 37-5 was the leading variety, followed in order by C. P. 43-32, C. P. 34-120, C. P. 36-105 and C. P. 36-13.

C. P. 43-3 outranked C. P. 36-183; while C. P. 43-47 and C. P. 43-33 compared favorably with the latter. C. P. 29-120 outranked C. P. 36-19.

First Stubble (Yazoo soil): Planted Sept. 25, 1945. Harvesting dates: 12/2/46, 11/15/47. Harvested by hand, top and bottom, and burned Nov. 11-13, 1947. Rain on Nov. 14. Weighing and mill tests of nine varieties at Reserve Factory November 15, 1947.

C. P. 36-105 and C. P. 36-183, ranked first and second respectively in the first stubble tests. Three varieties, C. P. 29-320, F. 36-671 and C. P. 36-13 were practically on an equal basis for third place; while C. P. 34-120 and C. P. 29-120 made the poorest showing.

C. P. 36-13, C. P. 29-120, C. P. 34-120, F. 36-671 and F. 36-819 showed considerable amount of cane borer damage.

Second Stubble (Yazoo soil): Planted October 12, 1944. Harvesting dates 12/1/45. 11/6/46 and 11/15/47. Harvested by hand, top and bottom and burned November 10-13, 1947. Heavy rain during night of November 14. Weighing and mill tests of eight varieties at Reserve Factory on Nov. 15, 1947.

Two unreleased varieties, C. P. 36-197 and C. P. 37-5 ranked first and second respectively in the second stubble tests; followed by C. P. 34-120, C. P. 36-13, C. P. 36-183 and C. P. 36-105. C. P. 29-120 and C. P. 29-320 made the poorest showing.

RESERVE TEST FIELD

In the severe hurricane of September 19, the wind reached a velocity of 90 miles per hour, with rainfall of 2.91 inches during a period of 2½ hours at Reserve, according to the U. S. Department of Commerce Weather Bureau report. The following observations on hurricane damage of varieties were made at the test fields:

Variety	Remarks
C. P. 43-13	Badly lodged; plenty of broken tops.
C. P. 44-101	Crooked and slightly lodged.
C. P. 44-153	Badly lodged.
C. P. 44-155	Badly lodged.
C. P. 43-3	Slightly leaning.
C. P. 43-9	Slightly leaning.
C. P. 43-32	Crooked and slightly lodged.
C. P. 43-33	Slightly leaning.
C. P. 43-47	Slightly leaning.
C. P. 43-28	Crooked and badly lodged.
C. P. 43-49	Crooked and badly lodged.
F. 36-671	Crooked and slightly lodged.
F. 36-819	Slightly crooked and leaning.
C. P. 29-120	Slightly crooked and leaning.
C. P. 34-120	Slightly leaning.
C. P. 36-13	Slightly crooked and leaning.
C. P. 36-19	Slightly crooked, badly broken tops.
C. P. 36-105	Slightly crooked and leaning.
C. P. 36-183	Crooked and badly lodged.
C. P. 36-197	Very crooked and badly lodged.
C. P. 29-320	Slightly leaning and small amount broken tops.

MEEKER TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Yahola Very Fine Sandy Loam)							
C. P. 43-3	16.79	12.83	76.41	28.11	$6.72	$188.90	$153.76
C. P. 36-105	15.64	11.27	72.06	30.17	6.21	187.36	149.65
C. P. 36-183	16.50	12.40	75.15	26.62	6.51	173.30	140.02
C. P. 36-197	16.98	12.89	75.91	25.20	6.76	170.35	138.85
C. P. 43-28	16.50	12.38	75.03	24.68	6.51	160.67	129.82
C. P. 36-13	16.50	12.31	74.61	24.65	6.51	160.47	129.66
C. P. 34-120	16.69	12.36	74.06	24.00	6.51	156.24	126.24
F. 36-819	16.60	12.85	77.41	22.68	6.74	152.86	124.51
C. P. 29-320	16.60	12.00	72.29	22.01	6.51	143.29	115.78
C. P. 43-47	16.69	12.57	75.31	21.65	6.56	142.02	114.96
C. P. 37-5	15.73	11.60	73.74	21.17	6.51	137.82	111.36
C. P. 43-9	15.44	11.11	71.96	20.68	6.00	124.08	98.23
C. P. 36-203	15.73	10.97	69.74	18.34	5.82	106.74	83.81
C. P. 36-19	14.87	10.70	71.96	18.12	5.47	99.12	76.47

MEEKER TEST FIELD

Variety	Normal Juice			Tons per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
First Stubble (Yahola Very Fine Sandy Loam)							
C. P. 43-3	17.84	12.06	70.62	30.88	6.51	201.03	162.43
C. P. 36-13	16.57	12.29	74.17	29.51	6.51	192.11	155.22
C. P. 43-33	15.99	11.63	72.73	27.55	6.51	179.35	144.91
C. P. 36-183	15.89	11.02	69.35	30.49	5.89	179.59	141.48
C. P. 36-197	17.94	14.23	79.32	21.60	7.64	165.02	138.02
C. P. 43-47	18.13	14.08	77.66	21.68	7.54	163.47	136.37
C. P. 34-120	17.45	13.55	77.65	22.54	7.19	162.06	133.88
C. P. 36-105	18.04	14.06	77.94	21.02	7.53	158.28	132.00
C. P. 43-9	15.69	10.74	68.45	30.34	5.52	167.48	129.55
C. P. 29-320	16.96	12.29	72.46	20.15	6.51	131.18	105.99
C. P. 33-243	16.85	12.62	74.85	19.70	6.59	129.82	105.19
C. P. 36-19	17.84	13.53	75.84	17.07	7.18	122.56	101.22
C. P. 37-5	16.48	12.36	75.00	18.44	6.51	120.04	96.99
C. P. 43-28	15.54	10.54	67.82	23.52	5.26	123.72	94.32
F. 36-671	17.94	14.00	78.04	13.90	7.49	104.11	86.73
Second Stubble (Yahola Very Fine Sandy Loam)							
C. P. 36-19	18.42	14.25	77.36	22.77	7.65	174.19	145.73
C. P. 36-105	17.94	13.69	76.31	23.80	7.28	173.26	143.51
C. P. 36-13	17.45	12.91	73.98	22.73	6.78	154.11	125.70
C. P. 36-183	16.67	11.79	70.73	23.50	6.51	152.99	123.61
C. P. 36-197	17.84	13.48	75.56	20.05	7.15	143.36	118.30
C. P. 33-243	17.74	14.00	78.92	18.66	7.49	139.76	116.43
C. P. 34-120	18.33	14.19	77.41	15.97	7.61	121.53	101.57
C. P. 36-203	17.65	13.04	73.88	16.47	6.86	112.98	92.39
C. P. 29-320	18.04	14.16	78.49	12.52	7.59	95.03	79.38

Fall Plant Cane (Yahola very fine sandy loam): Planted October 8, 1946. Harvested with machine, followed by careful scrapping of each variety on November 24-25, 1947. Burned, loaded, weighed and mill tests of fourteen varieties at Meeker Factory on November 25, 1947.

C. P. 43-3 was the highest ranking variety, with C. P. 36-105 and C. P. 36-183 ranking second and third respectively.

C. P. 36-197 and C. P. 43-28, two very recumbent unreleased varieties, ranked ahead of C. P. 36-113 and C. P. 34-120.

C. P. 29-320 ranked ninth, while C. P. 36-19 was fourteenth.

First Stubble (Yahola very fine sandy loam): Planted October 2, 1945. Harvesting dates: 12/2/46 and 11/3/47. Harvested by machine and each variety carefully scrapped on November 3, 1947. Burned, loaded, weighed and mill tests of fifteen varieties at Meeker Factory November 3, 1947.

C. P. 43-3 was the highest ranking variety, followed by C. P. 36-13, C. P. 43-33 and C. P. 36-183. Then C. P. 36-197 and C. P. 43-47 outranked C. P. 34-120 and C. P. 36-105.

C. P. 43-9 another promising unreleased variety, gave the second highest field yield but was low from a sucrose standpoint.

C. P. 29-320, standard cane of the section, made a comparatively poor showing in ranking tenth out of fifteen varieties.

Second Stubble (Yahola very fine sandy loam): Planted October 20, 1944. Harvesting dates: 11/27/45, 10/25/46 and 11/4/47. Harvested by machine, carefully scrapped and burned November 3, 1947. Weighing and mill tests of nine varieties at Meeker Factory on November 4, 1947.

C. P. 36-19 made the best showing in the second stubble tests, with the next three highest ranking varieties in the following order: C. P. 36-105, C. P. 36-13 and C. P. 36-183.

SHIRLEY TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Yahola Very Fine Sandy Loam)							
C. P. 34-120	16.20	12.86	79.38	26.34	$6.74	$177.53	$144.60
F. 36-819	17.10	13.82	80.82	23.10	7.37	170.25	141.37
C. P. 36-105	16.40	12.89	78.60	23.57	6.76	159.33	129.87
C. P. 43-47	16.40	13.15	80.18	22.18	6.93	153.71	126.46
C. P. 37-5	15.30	11.59	75.75	23.58	6.51	153.51	124.03
C. P. 36-197	16.50	13.78	83.52	20.33	7.34	149.22	123.81
C. P. 43-3	15.20	11.25	74.01	24.95	6.18	154.19	123.00
C. P. 36-13	15.30	11.75	76.80	21.72	6.51	141.40	114.25
C. P. 29-320	17.10	13.90	81.29	18.14	7.42	134.60	111.92
C. P. 43-9	14.70	10.75	73.13	26.15	5.53	144.60	111.91
C. P. 36-203	15.80	11.72	74.18	17.10	6.51	111.32	89.94
First Stubble (Yahola Very Fine Sandy Loam)							
C. P. 36-105	17.87	14.58	81.59	29.58	7.86	232.50	195.52
C. P. 34-120	16.76	13.59	81.09	25.88	7.22	186.85	154.50
C. P. 29-320	17.69	14.52	82.08	23.11	7.83	180.95	152.06
C. P. 43-28	16.11	12.51	77.65	28.63	6.52	186.67	150.88
C. P. 36-13	17.78	14.65	82.40	22.64	7.91	179.08	150.78
C. P. 36-183	17.22	14.24	82.69	22.64	7.64	172.97	144.67
C. P. 43-47	17.59	14.40	81.86	21.35	7.75	165.46	138.77
C. P. 43-3	17.04	13.32	78.17	20.98	7.04	147.70	121.47
C. P. 37-5	15.46	12.59	81.44	21.90	6.57	143.88	116.50
C. P. 43-9	16.02	12.31	76.84	21.75	6.51	141.59	114.40
F. 36-671	16.67	13.70	82.18	14.33	7.29	104.47	86.56
F. 36-819	16.48	13.17	79.92	13.59	6.95	94.45	77.46
Second Stubble (Yahola Very Fine Sandy Loam)							
C. P. 29-320	18.89	16.08	85.12	20.43	8.83	180.40	154.86
C. P. 36-105	17.50	14.95	85.43	20.56	8.10	166.54	140.84
C. P. 34-120	17.13	13.88	81.03	21.72	7.41	160.95	133.80
C. P. 36-13	17.78	14.65	82.40	19.04	7.91	150.61	126.81
C. P. 36-183	17.41	14.28	82.02	11.65	7.67	89.36	74.80
C. P. 36-203	17.22	13.20	76.66	8.78	6.97	61.20	50.22

Fall Plant Cane (Yahola very fine sandy loam): Planted Sept. 23, 1946, and harvested by hand, Nov. 24-25, 1947. Weighing of plots, sampling of eleven varieties (10 stalks of each) and small mill juice analyses at Meeker Factory Laboratory on November 25, 1947.

C. P. 34-120 and F. 36-819 were the two outstanding varieties; while C. P. 36-105 and C. P. 43-47 ranked third and fourth.

C. P. 37-5, C. P. 36-197 and C. P. 43-3, three unreleased varieties, were ahead of C. P. 36-13 and C. P. 29-320. However the latter variety was the leading variety from a sucrose standpoint.

First Stubble (Yahola very fine sandy loam): Planted Sept. 21, 1945. Harvesting dates: 11/27/46 and 11/4/47. All varieties harvested by hand, top and bottom and stripped. Weighing of plots, sampling of twelve varieties (10 stalks of each), and small juice analyses at Meeker Factory Laboratory on November 5, 1947.

The five highest ranking varieties were: C. P. 36-105, C. P. 34-120, C. P. 29-320, C. P. 43-28 and C. P. 36-13.

C. P. 36-183 and C. P. 43-47, two next highest ranking varieties, made a favorable showing; while the other five varieties were considerably lower from a "Balance per acre" standpoint.

SHIRLEY TEST FIELD

Second Stubble (Yahola very fine sandy loam): Planted October 11, 1944. Harvesting dates: 11/28/45, 10/24/46 and 11/4/47. The six varieties were cut by hand, top and bottom and stripped. Weighing of plots, sampling of varieties (10 stalks) and small mill tests were made at Meeker Factory Laboratory November 4, 1947.

C. P. 29-320, standard field variety, made the best showing; while C. P. 36-105 and C. P. 34-120 ranked second and third respectively. C. P. 36-13 ranked fourth comparing favorably with C. P. 34-120.

CAFFERY TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Baldwin Clay Loam)							
C. P. 36-183	16.79	13.80	82.19	19.77	$7.36	$145.51	$120.80
C. P. 43-47	15.44	11.94	77.33	22.27	6.51	144.98	117.14
C. P. 34-120	14.96	11.38	76.07	20.45	6.35	129.86	104.30
F. 36-819	16.60	13.09	78.31	17.05	6.84	116.62	95.31
C. P. 36-105	16.60	13.09	78.86	16.82	6.89	115.89	94.86
C. P. 36-13	14.76	11.29	76.49	18.41	6.24	114.88	91.87
F. 31-762	14.09	10.63	75.44	18.86	5.38	101.47	77.89
Co. 290	13.90	10.44	75.11	20.00	5.13	102.60	77.60
First Stubble (Baldwin Clay Loam)							
C. P. 43-47	16.21	13.05	80.51	25.54	6.87	175.46	143.53
C. P. 36-197	14.86	11.35	76.38	27.73	6.31	174.98	140.32
C. P. 36-105	16.41	13.58	82.75	22.47	7.21	162.01	133.92
l. 31-762	16.21	12.86	79.33	24.01	6.74	161.83	131.82
C. P. 29-116	14.86	11.08	74.56	25.77	5.96	153.59	121.38
C. P. 34-120	15.25	12.47	81.77	20.04	6.51	130.46	105.41
C. P. 36-183	15.15	11.75	77.56	19.27	6.51	125.45	101.36
C. P. 36-13	14.86	11.73	78.94	17.05	6.51	111.00	89.69
F. 36-819	16.12	12.66	78.54	14.75	6.61	97.50	79.06
Co. 290	13.99	9.98	71.34	20.48	4.53	92.77	67.17
Second Stubble (Baldwin Clay Loam)							
C. P. 34-120	14.96	11.82	79.01	22.93	6.51	149.27	120.61
C. P. 36-105	15.25	12.01	78.75	15.50	6.51	100.91	81.53
C. P. 36-183	14.28	11.06	77.45	15.28	5.94	90.76	71.66
C. P. 36-191	14.28	11.14	78.01	14.19	6.04	85.71	67.97
F. 31-762	14.28	11.14	78.01	14.08	6.04	85.04	67.44
C. P. 36-13	15.15	12.39	81.78	12.45	6.51	81.05	65.49
Co. 290	13.51	9.93	73.50	17.03	4.47	76.12	54.83
C. P. 29-116	14.48	10.59	73.14	12.66	5.33	67.48	51.65

Fall Plant Cane (Baldwin clay loam): Planted Sept. 17, 1946. Cut by hand, top and bottom and burned December 18, 1947. Loaded, weighed and mill tests at Columbia Factory on December 20, 1947.

The eight varieties were very badly damaged by cane borers. Three of the varieties, Co. 290, C. P. 36-13 and F. 31-762, besides the badly bored stalks had a considerable amount of broken tops and short late suckers.

The three varieties making the best showing were as follows: C. P. 36-183, C. P. 43-47 and C. P. 34-120.

The three varieties, C. P. 36-13, F. 31-762 and Co. 290, with the greatest amount of borer injury, were the lowest in sugar and field yields.

First Stubble (Baldwin clay loam): Planted Sept. 17, 1945. Harvesting dates: 12/28/46 and 11/14/47. The ten varieties were harvested by hand, top and bottom and burned on November 12, 1947. Loaded, weighed and mill tests at Columbia Factory on Nov. 14, 1947.

CAFFERY TEST FIELD

The ten first stubble varieties were badly damaged by cane borers. Co. 36-13 and F. 31-762, besides the badly bored stalk condition, had more broken tops and short late suckers than the other seven varieties.

C.P. 43-47, a promising unreleased variety ranked first. C. P. 36-197, a small barrel very recumbent type was in second place; while C. P. 36-105 ranked third.

F. 31-762, a very attractive unreleased cane and a close competitor of Co. 290 ranked fourth.

C. P. 36-13, F. 36-819 and Co. 290 were the lowest ranking varieties.

Second Stubble (Baldwin Clay Loam): Planted October 5, 1944. Harvesting dates: 11/10/45, 11/13/46 and 11/13/47. The eight varieties were harvested by hand, top and bottom and burned on November 13, 1947. Weights and mill tests at Columbia Factory on November 14, 1947.

The eight varieties were badly injured by cane borers. Co. 290, C. P. 36-13 and F. 31-762 had more broken tops and short late suckers than the other varieties.

C. P. 34-120 was the outstanding second stubble variety; while C. P. 36-105 and C. P. 36-183 ranked second and third respectively.

F. 31-762 was practically on an equal basis with C. P. 36-191 for fourth place, and C. P. 36-13 compared favorably with both of these varieties. Co. 290 and C. P. 29-116 gave very poor performance, as indicated by their sucrose tests and fields yields.

BILLEAUD TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Lintonia Silt Loam)							
Co. 290	16.12	13.44	83.37	21.20	$7.12	$150.94	$124.44
C. P. 36-13	16.60	13.94	83.98	19.60	7.45	146.02	121.52
C. P. 36-105	17.28	14.23	82.35	18.83	7.64	143.86	120.32
C. P. 36-183	17.28	14.39	83.38	18.38	7.74	142.26	119.28
C. P. 29-116	16.31	13.20	80.93	19.02	6.97	132.57	108.79
C. P. 43-47	16.84	14.30	84.92	16.91	7.68	129.87	108.73
C. P. 43-28	17.19	14.33	83.36	16.63	7.70	128.05	107.26
F. 36-819	18.25	15.41	84.44	14.34	8.40	120.46	102.53
C. P. 33-310	16.60	13.65	82.17	17.08	7.25	123.83	102.48
C. P. 37-5	16.60	13.71	82.59	14.63	7.30	106.79	88.50
C. P. 36-197	18.25	15.54	85.15	11.85	8.49	100.61	85.80
C. P. 34-120	16.31	13.81	84.67	13.44	7.36	98.92	82.12
First Stubble (Lintonia Silt Loam)							
C. P. 36-105	18.20	14.66	80.55	26.58	7.92	210.51	177.28
C. P. 36-13	18.79	14.94	79.51	25.26	8.10	204.61	173.03
C. P. 36-183	17.19	13.34	77.60	25.53	7.06	180.24	148.33
F. 31-762	18.64	15.15	81.28	20.26	8.24	166.94	141.61
C. P. 34-120	17.61	14.52	82.45	20.23	7.83	158.40	133.11
C. P. 33-243	18.30	14.97	81.80	18.03	8.12	146.40	123.86
C. P. 33-310	17.47	12.99	74.36	22.00	6.83	150.26	122.76
C. P. 36-191	17.13	13.27	77.47	17.37	7.01	121.76	100.05
Co. 290	16.41	12.07	73.55	16.93	6.51	110.21	89.05
C. P. 29-116	17.86	13.63	76.32	14.02	7.25	101.65	84.12
F. 36-819	18.25	14.59	79.95	10.20	7.87	80.27	67.52
F. 36-671	18.89	15.86	83.96	7.90	8.70	68.73	58.85

Fall Plant Cane (Lintonia silt loam): Planted Sept. 25, 1946. Harvested by hand, top and bottom and burned November 27-28, 1947. Loading, weighing and mill tests of thirteen varieties at Billeaud Factory on Nov. 29, 1947.

Co. 290 ranked highest, followed in order by C. P. 36-13, C. P. 36-105, and C. P. 36-183.

BILLEAUD TEST FIELD

In the second group of five varieties which compared closely in balance column figures, C. P. 29-116 was fifth, followed in order by C. P. 43-47, C. P. 43-28, F. 36-819, and C. P. 33-310.

The following four varieties ranked lowest; C. P. 37-5, C. P. 36-203, C. P. 36-197 and C. P. 34-120.

First Stubble (Lintonia silt loam): Planted October 1, 1945. Harvesting dates: 12/7/46 and 11/8/47. All varieties harvested by hand, top and bottom and burned on November 6-7, 1947. Loading weighing and mill tests of twelve varieties at Billeaud Factory on November 8, 1947.

In the first stubble varieties, C. P. 36-105 ranked first, followed in order by C. P. 36-13, C. P. 36-183, and F. 31-762.

The following four varieties, C. P. 34-120, C. P. 33-243, C. P. 33-310, and C. P. 36-191 outranked Co. 290 and C. P. 29-116.

*C. P. 36-230	17.06	14.64	85.81	13.18	$7.90	$104.12	$87.64

YOUNGSVILLE TEST FIELD

Variety	Normal Juice			Tons Per Acre	Value		Balance Per Acre
	Brix	Sucrose	Purity		Ton	Acre	
Fall Plant Cane (Olivier Silt Loam)							
C. P. 43-3	16.25	11.69	71.94	19.75	$6.51	$128.57	$103.88
F. 31-762	17.96	14.44	80.40	13.50	7.77	104.90	88.02
C. P. 36-183	16.53	12.84	77.68	14.75	6.73	99.27	80.83
C. P. 29-116	16.15	11.50	71.21	14.70	6.51	95.70	77.32
C. P. 33-310	17.86	13.63	76.32	12.80	7.25	92.80	76.80
C. P. 36-13	15.96	12.59	78.88	14.40	6.57	94.61	76.61
C. P. 43-47	17.86	14.25	79.79	11.94	7.65	91.34	76.41
C. P. 36-111	15.68	10.74	68.49	16.01	5.52	88.38	68.37
C. P. 43-28	17.10	13.23	77.37	11.53	6.99	80.59	66.18
Co. 290	15.68	11.69	74.55	12.50	6.51	81.38	65.75
C. P. 34-120	16.72	12.73	76.14	10.70	6.66	71.26	57.88
C. P. 36-105	16.06	11.41	71.05	10.20	6.39	65.18	52.43
First Stubble (Olivier Silt Loam)							
C. P. 36-183	17.48	13.61	77.86	27.80	7.23	200.99	166.24
C. P. 36-105	18.34	14.39	78.46	22.90	7.74	177.25	148.62
F. 31-762	18.15	14.66	80.77	21.28	7.92	168.54	141.94
C. P. 36-13	17.86	13.84	77.49	20.92	7.38	154.39	128.24
C. P. 29-116	15.96	11.19	70.11	26.20	6.11	160.08	127.33
C. P. 36-111	15.49	10.37	66.95	30.30	5.04	152.71	114.83
C. P. 34-120	18.05	14.26	79.00	14.15	7.66	108.39	90.70
Co. 290	16.25	12.30	75.69	16.88	6.51	109.89	88.79
C. P. 33-310	17.67	13.31	75.33	11.92	7.04	83.92	69.02

Fall Plant Cane (Olivier Silt Loam): Planted September 13, 1946. Harvested by hand top and bottom on November 17-18, 1947. Samples of the twelve varieties (30 stalks of each) were taken and analyses were made at Youngsville Factory Laboratory November 19, 1947. Frequent rains interfered with the burning, and the loading and weighing of plots were not made until November 27, 1947.

First Stubble (Olivier silt loam): Planted October 2, 1945. Harvesting dates: 12/11/46 and 11/17/47. The nine varieties were cut by hand, top and bottom. Analyses of samples (30 stalks of each) were made at Youngsville Factory Laboratory on November 19, 1947. On account of frequent rains, the burning of trash and the loading and weighing of

YOUNGSVILLE TEST FIELD

Field yields of the first stubble varieties were considerably higher than that of the plant cane. The four highest ranking varieties in the plant cane tests were as follows: C. P. 43-3, F. 31-762, C. P. 36-183, and C. P. 29-116. Co. 290 and C. P. 34-120 were very poor as plant cane and first stubble. The four highest ranking varieties in the first stubble tests were as follows: C. P. 36-183, C. P. 36-105, F. 31-762 and C. P. 36-13. The unreleased F. 31-762 variety gave a fine performance as plant cane and first stubble, and is one of the most promising of the new varieties.

SUMMARIZED RESULTS OF 1947 RESULTS

(1) **Red River Section:** The averages on Yahola very fine loam at the two test fields (plant cane, first and second stubble), showed the following variety rankings: **Meeker:** (1) C. P. 36-105; (2) C. P. 36-13; (3) C. P. 36-183; (4) C. P. 34-120; (5) C. P. 36-19 and (6) C. P. 29-320. **Shirley:** (1) C. P. 36-105; (2) C. P. 34-120; (3) C. P. 29-320 and (4) C. P. 36-13.

(2) **Upper Mississippi River Section:** On Yazoo soil, from the averages of plant cane, first and second stubble, the varieties ranked in the following order: (1) C. P. 36-105; (2) C. P. 29-120; (3) C. P. 36-13; (4) C. P. 29-320 and (5) C. P. 34-120. While on Sharkey soil (black land), C. P. 33-224, an unreleased variety ranked first, followed in order by C. P. 36-105, C. P. 34-120 and C. P. 36-13.

(3) **Lower Mississippi River Section:** The average results of plant cane, first and second stubble, of Glenwood and Reserve test fields, showed the following variety ratings: (1) C. P. 36-105; (2) C. P. 36-183; (3) C. P. 36-13; (4) C. P. 34-120 and (5) C. P. 49-120. Both locations showed exactly the same ranking of these five commercial canes.

(4) **Teche Section.** The averages of Bladwin clay loam ,for fall plant cane, first and second stubble, show that C. P. 34-120 and C. P. 36-105 ranked first and second respectively, repeating their performance of the season of 1946. Other varieties were in the following order: (3) C. P. 36-183; (4) F. 31-762; (5) C. P. 36-13 and (6) Co. 290.

(5) **Western Section:** On Lintonia soil at Billeaud test field, averages of plant cane and first stubble, showed the following variety rankings: (1) C. P. 36-105; (2) C. P. 36-13; (3) C. P. 36-183; (4) C. P. 33-310; (5) C. P. 34-120; (6) Co. 290 and (7) C. P. 29-116.

At Youngsville test field on Olivier soil, averages of plant cane and first stubble, showed the following variety ratings: (1) C. P. 36-183; (2) F. 31-762; (3) C. P. 36-13; (4) C. P. 29-116; (5) C. P. 36-105; (6) C. P. 34-120; (7) Co. 290 and (8) C. P. 33-310.

RAINFALL—1947

Location	January		February		March		April		May		June	
	days	inches	days	inches	days	inches	days	inches	days	inches	days	inches
Cinclare	17	6.45	6	1.44	8	15.54	12	6.66	10	4.72	7	2.07
Glenwood	12	5.95	6	1.93	8	9.66	7	5.25	6	2.68	10	2.55
Reserve	22	8.87	8	1.76	9	11.22	10	6.41	12	4.92	8	3.65
Saffery	8	5.45	3	1.75	5	6.40	5	5.50	4	6.20	5	3.64
Meeker	9	11.70	4	1.66	7	7.01	6	9.71	6	6.51	5	3.63
Cheneyville	11	11.85	3	0.98	8	9.37	7	8.02	8	5.85	7	6.65
Billeaud	8	5.46	2	1.35	7	14.17	5	4.38	5	7.71	4	1.60
Youngsville	8	8.21	5	1.37	8	13.96	5	3.69	8	8.60	4	1.39

Location	July		August		September		October		November		December		TOTAL	
	days	inches	days	inches	days	inches	days	inches	days	inches	days	inches	days	inches
Cinclare	5	2.22	10	1.83	7	3.76	1	0.13	11	10.07	9	7.71	103	62.60
Glenwood	4	2.17	14	4.30	8	7.74	2	0.50	13	12.55	7	8.63	97	63.97
Reserve	4	2.89	15	5.01	8	4.25	3	0.56	16	11.67	9	9.71	124	70.92
Saffery	6	5.10	8	5.60	4	4.25	3	3.05	9	11.35	5	8.70	65	66.99
Meeker	3	4.65	4	1.35	3	4.56	0	0.00	7	10.29	5	7.84	59	68.91
Cheneyville	2	0.44	5	0.42	2	4.55	2	0.39	8	7.53	5	4.48	68	60.53
Billeaud	3	2.25	9	4.18	6	2.48	3	1.07	15	9.24	8	6.49	75	60.38
Youngsville	5	2.48	12	5.52	5	2.40	5	1.73	8	9.68	5	6.49	78	65.52

Cinclare, Reserve and Cheneyville, data from U. S. Department of Commerce Weather Bureau.
Other locations: data from plantations.

Evaluation of Results

The final results for the season of 947 are given in tabulated form for ach test field. Information on rainfall nd temperature records are presented n tables following the tabulated data.

The following uniform headings are ised in the tables: (1) Variety; (2) Normal Juice (Brix, Sucrose and Purity); (3) Tons Per Acre; (4) Value (Per Ton of Cane) and Per Acre (gross money value); and (5) Balance (Per Acre). The "Balance" is obtained by deducting $1.25 per ton harvesting expense (tons per acre X $1.25) from the "Value per Acre." Balance column

Freezing and Below 32 Degrees Fahrenheit Temperatures—1947

Date	Cheneyville	Cinclare	Napoleonville	Reserve	Franklin	Lafayette	Billeaud
January 4	24	27	28	30	30	29	28
January 5	23	28	28	30	30	27	----
January 6	27	29	----	30	----	29	30
Jan. 22	29	29	28	32	----	31	----
January 23	33	32	32	30	----	----	----
February 3	29	31	----	----	----	----	----
February 4	22	----	24	24	26	----	25
February 5	20	----	28	27	32	----	31
February 8	22	25	27	28	29	25	----
February 10	22	23	23	25	28	21	24
February 11	28	28	29	28	32	31	30
February 22	31	31	30	----	----	27	----
February 24	25	30	----	28	----	31	30
February 25	28	28	27	30	32	----	30
March 2	28	29	32	31	32	31	29
March 3	28	30	----	31	33	30	----
March 9	31	32	----	----	----	----	----
November 8	32	----	32	----	----	----	----
November 29	31	----	----	----	----	----	----
November 30	32	----	----	----	----	----	----
December 17	31	32	----	----	----	32	----
December 18	30	30	----	----	----	32	----
December 22	31	32	32	----	----	----	32
December 25	30	31	32	30	----	32	32
December 26	28	30	30	30	----	32	----
December 27	30	----	32	----	----	30	----
February 9	27	30	32	28	----	30	30

Cheneyville, Cinclare, Reserve, Franklin and Lafayette data from U. S. Department of Commerce Weather Bureau. "Climatological Data".

Napoleonville data Elm Hall Plantation.

Billeaud: Billeaud Sugar Factory.

figures show ranking of varieties from an actual money value per acre standpoint, starting with the highest and ending with the lowest amount.

The "Louisiana Sugar Cane Contract," which is in general use for purchasing cane by the raw sugar houses of the state, with a basis of 11½ to 12½ per cent sucrose in normal juice for par cane, was used for obtaining comparative data and information in connection with field and milling results and the actual value of varieties. This contract has been accepted by the Louisiana sugar industry and is entirely used for all sugar cane settlements.

Acknowledgments

To the test field cooperators, and members of their staff listed below, the writer expresses thanks and appreciation for making it possible to obtain data and results in this report on "Sugar Cane Test Fields—Season of 1947".

Cinclare Central Factory, Clinclare: H. Langdon Law, E. W. McNeil, W. S. Daubert, Standley Alexander, L. M. Barlow, R. T. Gibbens, Jr. and Clark Thibodeaux.

Glenwood Cooperative Inc., Napoleonville: Bronie Thibaut, Wilton Roger, L. A. Bergeron, C. C. Singleto and Norman Hebert.

Godchaux Sugars Inc., Reserve: Walter Godchaux W. E. McFarland, Walter Bondurant, Jules J. Haydel, Jr J. V. Fourmy, C. H. Munson and Norman Perret.

Meeker Sugar Refining Co., Meeker: E. F. Krame L. A. Achee, Rolando Figueroa, Eugene Johnson, St. Elm Broussard and Woodrow Young.

Haas Investment Co., Bunkie: Sam Haas, Curt Earnest, Carl Hunt, and Meeker Sugar Refining Co Meeker.

Billeaud-Reaux Plantation and Billeaud Sugar Factor Broussard: George L. Billeaud, R. H. Littell, E. C. Armai er, O. O. Gutekunst and J. L. Brown.

Katy Plantation and Columbia Factory, Franklin: Joh M. Caffery, T. D. Fay, P. J. Chauvin, Miss Marjor Myers, John Smith, Jr. and John Smith, Sr.

Young's Industries Inc. and Youngsville Sugar Factor Youngsville: M. V. Yarbrough, Roy Hays, Mrs. Blanch A. David and Mrs. George Scranton.

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YIELD TRENDS IN TESTS OF SUGARCANE VARIETIES AND IN ANNUAL PRODUCTION OF CANE AND SUGAR IN LOUISIANA

By George Arceneaux, Senior Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

A cooperative program of breeding, testing, and introducing new varieties of sugarcane has been conducted by the United States Department of Agriculture, Louisiana State University, and the American Sugar Cane League since 1926.

Results of these activities have been clearly reflected in State production figures. Substitution first of the P.O.J. varieties, and later of Co. and C. P. varieties, caused unmistakable increases in production of cane and sugar. The average yield of sugar per acre for Louisiana increased almost five-fold between 1926 and 1939. What has taken place since 1939 in the matter of improvement in the variety set up is not so clear. It is recognized of course that annual production figures are greatly affected by weather and other environmental factors, but it may be significant that not once since 1939 have we been able to equal the production of sugar per acre for that year.

As a part of the program on varietal studies, replicated yield tests are conducted annually at a number of selected and presumably representative stations in southern Louisiana. Plantings are made at each station from year to year under soil and other conditions that are highly comparable for any given station. At harvest, samples of sugarcane are brought to Houma for juice analyses and other studies.

Yields of cane per acre are based on the weights of hand cut, hand stripped cane. The method used in calculating the yield of sugar per ton of cane from juice analyses has been previously described (3). Essentially it involves the use of a representative set of milling factors for each variety obtained on fresh trash-free cane under experimentally controlled conditions.

Yield tests serve two important and more or less distinct purposes: (1) they are the proving ground for new varieties and (2) they supply a basis for measuring the relative performance of cultivated varieties from year to year.

This report summarizes a study of yield data obtained over the period

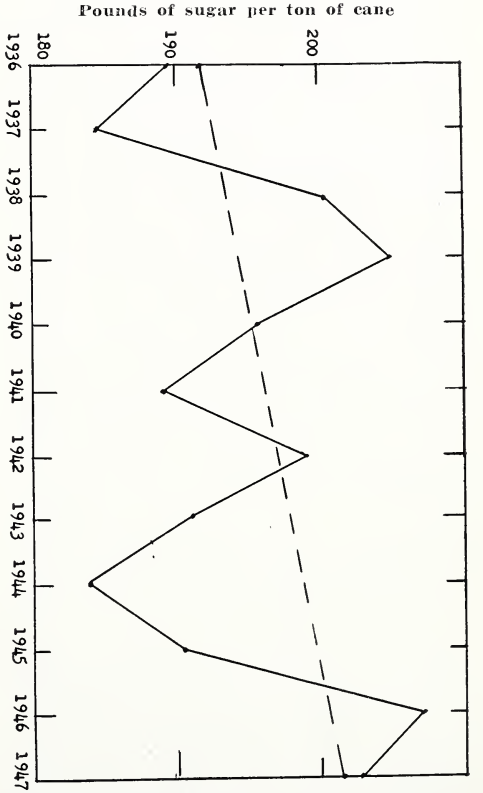

Fig. 1. Mean annual yields, Co. 281, Co. 290, C. P. 28-19, C. P. 29.320.

1936-1947 to determine possible changes in varietal performance over that period and the relation that such changes might bear to observed variations in state production.

An ideal arrangement for measuring possible changes in varietal yield capacity over a period of time would be a

series of tests of the identical varieties at the same locations year after year. For obvious reasons it is not practically feasible to continue tests indefinitely on all varieties introduced into our system of field tests. However we have maintained uninterrupted observations on all important varieties in commercial culture since 1936 at enough stations of unchanged location to give an accurate

TABLE 1. Average annual yields of sugar per ton of cane of each of 4 important varieties as based on results of yield tests.

Year	Average yield of 96° sugar per ton of cane (pounds)				
	Co. 290	Co. 281	C. P. 29-320	C. P. 28-19	Mean
1936	172.48	181.58	197.21	205.62	189.22
1937	165.26	177.53	192.52	203.88	184.80
1938	186.13	193.48	202.75	218.34	200.17
1939	185.87	195.67	209.12	227.64	204.58
1940	184.31	193.28	192.81	211.17	195.39
1941	172.03	174.84	195.07	214.00	188.98
1942	185.15	192.77	200.71	217.39	199.00
1943	173.24	182.93	204.20	203.66	191.01
1944	173.43	173.92	189.26	198.64	183.81
1945	176.80	180.08	201.33	203.14	190.34
1946	192.90	198.77	210.45	225.33	206.86
1947	186.12	199.61	207.46	217.35	202.63
Mean	179.48	187.04	200.24	212.18	194.73
Mean 1936–41					193.83
1942–47					195.61

Variety	Annual linear increase (+) or decrease (−) in yield of sugar per ton of cane	
	Pounds	% of Varietal Mean
Co. 290	+.878	+0.49
Co. 281	+.608	+0.33
C. P. 29-320	+.716	+0.36
C. P. 28-19	+.179	+0.08
Mean	+.595	+0.31

measure of relative varietal performance from year to year.

Table 1 gives the annual average yield of sugar per ton of cane obtained with Co. 290, Co. 281, C. P. 29/320 and C. P. 28/19 during the period 1936-47, inclusive. Each value shown is based on results of 5 plant cane tests (Raceland, Oaklawn, Albania, Erath, Alma), 5 first stubble tests (same locations) and 2 second stubble tests (Raceland and Alma). The annual averages given were obtained by giving plant cane and first stubble yields a weight of 1 each, and second stubble yields a weight of 1/2. This is approximately in the ratio of acreages of the 3 crops ordinarily kept in cultivation. Figure 1 gives a graphical representation of yearly average values shown in table 1.

A study of these data reveals no systematic change of any significance in relation to time. Annual fluctuations have been such as might be expected in response to variations in weather conditions from year to year. The net directional change over the 12-year period as based on the slope of the "line of least squares" (Fig. 1) shows a slight and statistically insignificant positive trend i. e., in the direction of a slight increase from year to year. The probability of obtaining such a change as a matter of chance alone is extremely high and the fact that it happens to be on the positive side is of little significance. As a matter of fact the average linear change over the first 10 years (1936-1945) was slightly on the negative side (—.402 pounds per year).

Table 2 gives a comparison of the state average yield of sugar per ton of cane and average yields obtained from results of variety tests (table 1).

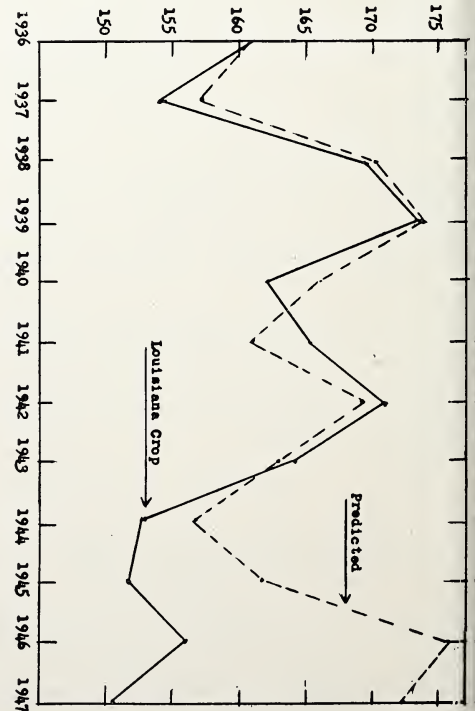

Fig. 2. Sugar per ton of cane.

Data given in columns 2 and 3 of table 2 show a rather consistent relationship between experimental yields of sugar per ton of cane and corresponding values for the state average. Use of fresh trash-free cane for available sugar determinations, and a group of varieties of better than average quality had the effect of placing experimental yields consistently above state average figures but fluctuations in the 2 series of data from year to year were in very good agreement. This is shown by a comparison of state average values with corresponding ones shown in column 4 (predicted yields as based on experimental results). The latter were obtained by multiplying the corresponding annual variety test averages by .850312—the over-all ratio between state yields and experimental yields for the 8-year period. Fig. 2 gives a graphical representation of data given in table 2.

TABLE 2. Comparison of Louisiana average annual yields of sugar per ton of cane with average yields obtained in yield tests

Year	Yield of 96° sugar per ton of cane (pounds)			
	Average of 4 varieties in U.S.D.A. tests (Table 1)	State average	Predicted yield as based on experimental results	Departure of State average from predicted average
1936	189.22	161.02	160.90	+0.12
1937	184.80	154.42	157.14	—2.72
1938	200.17	168.96	170.21	—1.25
1939	204.58	173.50	173.96	—0.46
1940	195.39	161.98	166.14	—4.16
1941	188.98	165.28	160.69	+4.59
1942	199.00	171.44	169.21	+2.23
1943	191.01	164.06	162.42	+1.64
Mean 1936–43	194.144	165.083		
1944	183.81	152.54	156.30	— 3.76
1945	190.34	151.37	161.85	—10.48
1946	206.86	155.96	175.90	—19.94
1947	202.63	150.40	172.30	—21.90

It will be noted that for the period 1936-43 annual variations in production of sugar per ton of cane were in remarkably good agreement with observed variations in yields based on experimental results. During the period, the highest discrepancy in this regard occurred in 1941 when the state average was 4.59 pounds above the predicted yield. This was probably due largely to unusually favorable ripening conditions not completely reflected in experimental results. In the absence of freezing temperatures, the commercial crop instead of suffering the customary late-season deterioration from freeze injury continued to improve in sugar content up to the end of grinding. Harvest of experimental variety plots during that year was completed on December 3, hence cane in these plantings did not derive an advantage comparable to that enjoyed by the crop as a whole. The next largest discrepancy observed in 1940 when the state average was 4.16 pounds below the predicted yield, was probably due to a reversal of conditions experienced in 1941. In that year, the effect of damaging temperatures experienced during mid-November was probably not as completely reflected in experimental results as in results of the crop as a whole.

Since 1944, predicted state yields obtained by applying the 1936-43 factor to experimental yields were consistently higher than corresponding state averages. Observed differences ranged from 3.76 pounds in 1944 to 21.90 pounds in 1947. As mentioned in a previous report (2) recent deficiencies in average sugar recovery which have become progressively more critical from year to year must be attributed by and large to factors related to a revolutionary change in harvest procedure. We believe that the principal factors involved are:

1. Increased percentage of trash and mud in mill cane.

2. Increased proportion of green tops in mill cane resulting from more extensive use of mechanical harvesters.

3. Increased deterioration between cutting and milling.

We must of course recognize that per-ton recovery of sugar is but one phase of the much more important problem of over-all efficiency of agricultural production of sugar. In the last analysis it is a question of production of sugar per acre. It is one thing to say that trash is costing 20 pounds of sugar per ton of cane. But it is an entirely different matter to assume that by disposing of the trash we can step up per-acre production of sugar in corresponding proportion. The one big item in the 20-

pound loss is the shrinkage in net weight of cane per gross ton delivered. When you remove that mechanically or mathematically, you automatically reduce the yield of cane per acre. Therefore, a study of sugar production problems will be very incomplete if we confine ourselves to yields of sugar per ton of cane.

The fact that the productive capacity of a sugarcane variety does not necessarily remain constant is not new to Louisiana sugar people. Most of us can remember only too vividly what happened to Louisiana Purple and D-74 in the early 20's. In the case of other varieties, observed changes have been less spectacular but nevertheless of sufficient importance to greatly impair the value of the varieties involved.

Ordinarily the yield of cane per acre from a given variety will vary rather widely up and down in response to differences in weather conditions from year to year. Under such conditions a decline in varietal yield capacity of the order commonly encountered may not be clearly apparent in a study of yield data obtained over relatively few years. For periods of 6 years or less such a retrogressive change may usually be detected most readily by comparing the relative performance of different varieties in a group. In this way the effect of over-all annual fluctuations in yield level is largely removed and possible changes in relative varietal productiveness readily determined. From such studies we have observed and reported (6) that during the period 1932-1937, yields of cane per acre from C. P. 807 declined sharply in comparison with yields from Co. 290. Later (4) (5) it was shown that yields of cane per acre from certain varieties, notably Co. 290 and C. P. 29/320, had declined significantly in comparison with yields of C. P. 29/116 over the period 1937-1940.

To overcome whatever influence such depreciations in varietal productivity may have on over-all production we have to depend on the substitution of new varieties. Over the past two decades this has been a very familiar procedure in Louisiana. The progress by way of improvement in yield capacity under existing conditions depends not so much on whether the supplanting varieties are better than the varieties being supplanted at the time, but depends instead on whether the new varieties may or may not be better than the old ones were at their peak performance.

Table 3 gives annual yields of cane per acre obtained with several important varieties in plant cane and first stubble tests since 1936. Values shown

TABLE 3. Varietal annual average yields of cane per acre in plant cane and first stubble tests.

Crops	Co. 281	Co. 290	C. P. 28–19	C. P. 29–320	C. P. 29–116	C. P. 34–120
1936 & 37	21.90	33.51	23.57	26.54	32.80	
1937 & 38	20.41	36.16	23.73	27.17	36.46	
1938 & 39	21.10	35.24	23.04	25.68	35.20	
1939 & 40	20.74	22.74	18.62	20.29	32.27	
1940 & 41	13.95	23.32	15.71	14.25	24.55	
1941 & 42	18.32	26.61	19.99	18.34	28.23	28.15
1942 & 43	19.66	28.79	19.70	21.12	31.38	30.63
1943 & 44	16.88	27.87	17.17	19.53	32.99	29.66
1944 & 45	16.36	32.38	17.71	21.02	30.02	30.11
1945 & 46	17.55	29.17	16.73	18.89	28.69	26.74
1946 & 47	12.95	20.34	12.65	13.84	21.35	17.37

	Annual linear drop in yield of cane per acre	
	Tons	% of Varietal Mean
Co. 281	—0.530	2.84*
C. P. 28/19	—0.761	3.88*
C. P. 29/320	—0.825	3.87*
Co. 290	—0.490	1.66
C. P. 29/116	—0.558	1.79
C. P. 34/120	—0.334	1.15

* Statistically significant.

are average yields from 5 stations (Raceland, Oaklawn, Albania, Erath and Alma) where the tests were repeated under conditions highly comparable as to soil type and fertility level from year to year. It is obvious from inspection that fluctuations, while up and down from year to year, have tended downward over the period of time. It is possible through appropriate calculations to remove from the sum total of variations from year to year that component of it tending systematically upward or downward. A convenient expression of such a change is the slope of the line of least squares fitting the observed data.

Fig. 3 shows lines of least squares fitted to annual average yields of cane per acre obtained with Co. 290 and C.P. 29/320 for the crops 1936-37 to 1945-46, inclusive. It was considered preferable to omit the 1946-47 yields in these calculations. Yields of cane during 1947 were depressed greatly as a result of almost unprecedented drouth and it was

felt that the effect of observed yields at the terminus of the series would have tended to give an exaggerated value to the calculated order of decline.

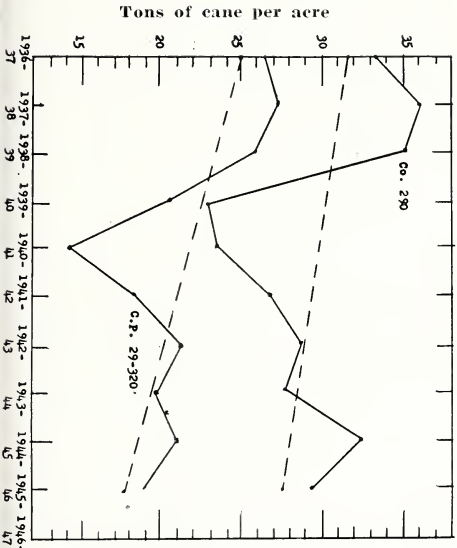

Fig. 3. Mean annual yields, plant cane and first stubble.

Table 3 gives the annual linear decline in yield of cane per acre as calculated for each of 6 varieties from results of plant cane and first stubble tests. Trends observed with C.P. 29/320 and Co. 290 are graphically shown in Fig. 3. The significance of a given rate of decline depends on its magnitude in relation to random fluctuations. In this case annual drops of 2.84%, 3.88% and 3.87% calculated for Co. 281, C. P. 28/19 and C. P. 29/320, respectively, may be regarded as statistically significant. Systematic declines maintained by Co. 290, C. P. 29/116 and C. P. 34/120 are not large enough to be regarded as definitely significant.

Table 4 gives annual average yields of cane per acre obtained with several important varieties in second stubble tests during the period 1936-47, inclusive. The annual linear decline for each variety is also shown. Fig. 4 shows graphically the linear declines observed with Co. 281 and Co. 290.

It will be noted that observed annual declines of 5.52% with Co. 281, 5.14% with Co. 290, 4.82% with C. P. 29/320 and 3.30% with C. P. 28/19 were definitely significant. The decline of 4.96% observed with C. P. 34/120 is strongly suggestive but cannot be regarded as definitely significant because of the comparatively short period over which tests of this variety extended. The annual linear decline of 0.61% in the case of C. P. 29/116 is of little if any significance.

TABLE 4. Varietal average annual yields of cane per acre in second stubble tests.

Crop Year	Co. 281	Co. 290	C. P. 28–19	C. P. 29–320	C. P. 29–116	C. P. 34–120
1936	19.97	35.84	22.83	32.70		
1937	13.99	35.09	23.33	22.82		
1938	17.15	35.34	22.88	30.01	30.65	
1939	21.17	35.90	25.60	28.50	36.21	
1940	11.45	23.15	16.45	20.00	24.55	
1941	13.10	24.25	18.10	17.45	27.05	
1942	6.30	14.90	12.45	9.50	16.08	
1943	18.45	27.90	24.50	26.05	36.40	30.10
1944	11.20	25.70	21.55	22.85	30.70	34.60
1945	11.75	27.35	18.85	18.60	37.70	33.10
1946	10.35	21.15	13.90	19.22	21.20	25.55
1947	4.00	19.50	6.40	14.90	16.95	14.80

Variety	Annual linear drop in yield of cane per acre	
	Tons	% of Varietal Mean
Co. 281	—0.777	—5.52*
Co. 290	—1.432	—5.14*
C. P. 29-320	—1.101	—4.82*
C. P. 28-19	—0.661	—3.30*
C. P. 34/120	—1.53	—4.96
C. P. 29/116	—0.170	—0.61

* Statistically significant.

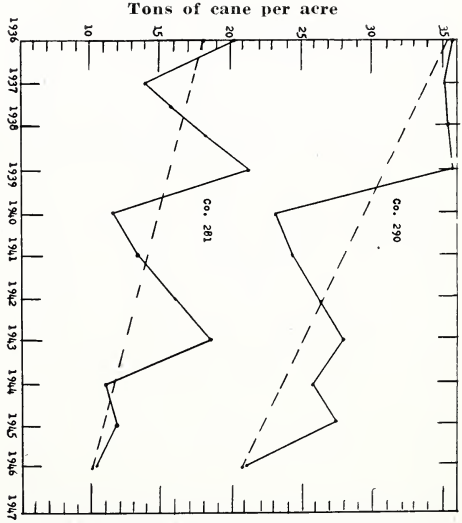

Fig. 4. Mean annual yields, second stubble.

As previously stated, the over-all productive capacity of the Louisiana sugarcane crop as constituted from year to year has been affected by two opposing factors, viz: (1) decline in the yield

capacity of certain varieties from year to year and (2) the introduction of new varieties. Obviously the well being of the industry's agricultural operation depends on whether the net results amount to a gain or a loss in productive capacity. We have a record of the proportionate acreage in Louisiana devoted to each of the various varieties for the years 1935, 1939, 1941, 1942, 1945 and 1947. The principal changes over the period are graphically shown in Fig. 5.

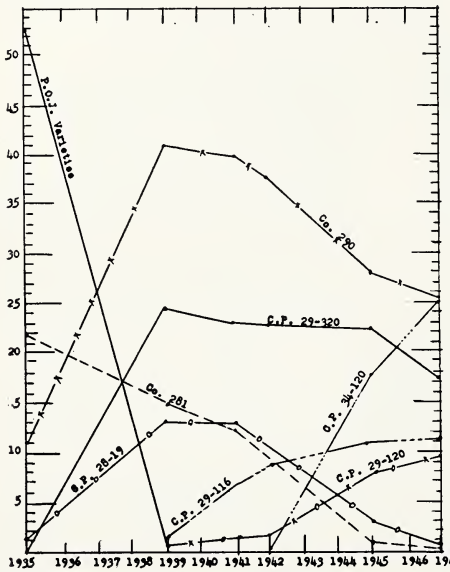

Fig. 5. Changes in the distribution of Louisiana sugarcane acreage among important varieties during the period 1935-1947, inclusive.

From a study of cane and sugar yields obtained in tests from year to year in the manner outlined earlier, it is possible to arrive at what may be considered a representative level of productivity for each variety from year to year. Table 5 gives the relative yield value for each of 4 important varieties in the aggregate of plant cane, first and second stubble during each of the 6 census years as based on linear declines in yield calculated from results of tests given in tables 3 and 4. In arriving at a representative rate of decline for the crop as a whole (plant and stubble) the observed rate of drop maintained in plant cane and first stubble combined was given a value of 2 and that of second stubble a value of 1/2. The acre ages in cultivation are approximately i that ratio. The base value (100) i taken as the average calculated yiel capacity of Co. 281 for 1935 (21.16 ton per acre). It will be noted that the cal culated average productive capacity c the 4 varieties in 1935 was 124.2 o 24.2% above that of Co. 281 at tha time. In 1947 the calculated averag productiveness of the 4 varieties wa 83.7 or 16.3% below that of Co. 281 i 1935. Thus while Co. 290 and C. P 29/320 in 1947 still maintained thei characteristic superiority to Co. 281 i

TABLE 5. Calculated potential yield of cane per ac for each of 4 important varieties during each of census years as based on observed linear decline from year to year (Tables 3 and 4). 1935 yield of Co. 281 (21.16 T.) M.

Variety	1935	1939	1941	1942	1945	1947
Co. 281	100	89	84	81	73	67
C. P. 28-19	114	100	94	90	79	72
C. P. 29-320	126	109	102	97	85	77
Co. 290	157	145	138	135	125	119
Mean	124.2	110.7	104.5	100.7	90.5	83.

calculated yield capacity the group, as a whole, fell definitely below the produc tion level of Co. 281 as it was in 1935.

Yield capacity figures such as give for the 4 varieties in table 5 have bee calculated for all varieties in commer cial culture during the period 1935-47 From these data and variety censu figures as graphically shown in Fig. 5 the yield capacity of the Louisiana cro as constituted for each of the 6 censu years was calculated to be as follows

1935 — 101.79
1939 — 120.26
1941 — 117.07
1942 — 115.46
1945 — 114.59
1946 — 114.40

In each case the 1935 yield capacity of Co. 281 (21.16 tons) is taken as 100

Because of varietal differences i available sugar content, varietal substi tutions from year to year could accoun for important over-all changes in th production of sugar per ton of cane From varietal acreage figures given i variety census reports and the character istic productivity of each variety as re vealed in field tests it is possible to de termine with reasonable accuracy th

proportionate tonnage of each variety constituting the crop of each census year. It is likewise possible from results of juice analyses and experimental milling studies to determine a characteristic quality value for each variety. For instance with Co. 281 taken as 100 the available sugar content of C. P. 28/19 may be taken as 110, that of Co. 290, 95, that of C. P. 29/116, 89, etc. By use of such factors and figures on proportionate tonnages of the different varieties it is possible to determine the quality value of the crop as a whole for each census year. These were calculated to be as follows:

1935 — 95.5
1939 — 100.0
1941 — 99.6
1942 — 99.2
1945 — 99.2
1947 — 98.6

Values as given above reflect the combined effect of varietal differences in normal juice extraction and juice analysis.

In a similar manner the average fiber content of the crop as a whole on a trash-free basis may be computed on the basis of characteristic values for fiber content as determined for individual varieties. With fiber % cane for Co. 281 at 13.00% the following values would be typical for the varieties mentioned:

Co. 290 11.05; C. P. 29/116 11.44; C. P. 29/320 14.43;
C. P. 28/19 15.34; C. P. 29/120 12.74; C. P. 34/120 14.56.

From these and representative values for other varieties, fiber content of the Louisiana crop on the basis of trash-free cane for each of the census years was calculated to be as follows:

1935 — 13.25
1939 — 12.61
1941 — 12.57
1942 — 12.51
1945 — 12.83
1947 — 13.03

These are graphically shown in Fig. 6 in comparison with state average annual values for fiber % cane as based on factory reports summarized by A. A. A. for the period 1935-46, inclusive (1). According to our calculations the percentage of fiber in the Louisiana crop exclusive of trash should have declined from an estimated 13.25% in 1935 to a low of 12.51% in 1942 and then gradually increased to slightly over 13% in 1947. Instead of that there was a drop from 13.92% in 1935 to 12.37% in 1939. Since 1937 fiber % cane as milled has tended upward, reaching 14.84% in 1946, and probably over 15% in 1947. The difference between expected and actual values was unquestionably due to an increasing proportion of trash sent to the factory.

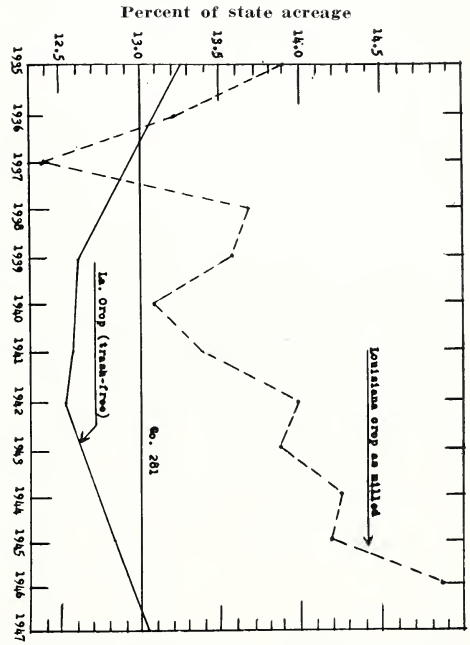

Fig. 6. Fiber percent cane. Calculated on trash-free basis from results of annual controlled variety tests versus average shown by summarized annual sugar factory reports.

Fig. 7 shows graphically the theoretical capacity for production of cane per acre, sugar per ton of cane and sugar per acre during each of the 6 census years with the varietal assortment as actually used. Shown also in Fig. 7, is the average linear drop in yield capacity observed with Co. 281, Co. 290, C. P. 2819 and C. P. 29/320 from 1935 to 1947. These 4 varieties have constituted the major part of the Louisiana crop over most of that period.

The productive capacity of the Louisiana sugarcane crop as based on these

studies increased sharply from 1935 to 1939. This came about from widespread replacement of P.O.J. varieties with the then vastly superior Co. 290, C. P. 28/19 and C. P. 29/320. Since 1939 on the other hand our calculated productive capacity for cane as well as for sugar per acre has been going down rather steadily. That the drop has not been nearly as precipitous as that shown graphically for the 4 varieties is a reflection of the effect of varietal replacement. The fact that we have lost ground in over-all productivity indicates that the quality of replacements has not been high enough to overcome completely what we have lost of productive capacity in the old varieties.

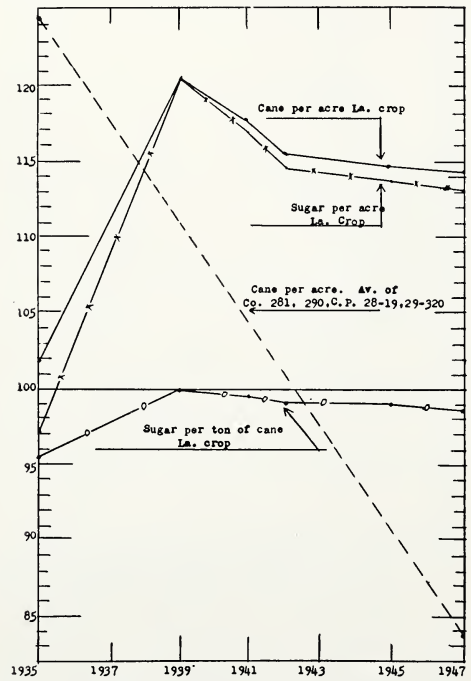

Fig. 7. Potential yield values as based on experimental results and the variety census. 100 = average yield from Co. 281 in 1935.

It should be mentioned here that limitations imposed as a result of increased dependence on machine harvesters does not permit the most effective utilization of available varieties. For instance C. P. 29/116 is not satisfactorily adapted to mechanical harvesting and therefore cannot be widely substituted for Co. 290. Extensive acreages are devoted to C. P. 29/320 and C. P. 29/120 in preference to C. P. 34/120 because it is felt that the former varieties offer somewhat better insurance against lodging under adverse conditions.

Figure 8 shows the calculated capacity of the Louisiana crop for production of sugar per acre over the period 1935-1947 in comparison with actual production figures. It seems obvious that trends in Louisiana production tended to follow changes in the calculated productive capacity of the Louisiana crop as calculated by taking into consideration experimental results and varietal turnover. From 1935 to 1939 the state average yield of sugar per acre rose sharply in agreement with the calculated rise in yield capacity. Since 1939 the over-all trend in state sugar production per acre has been clearly downward. This may be expressed as an annual linear drop of 44.5 pounds per year or a total of 356 pounds (12%) for the period. For the same period the calculated loss in yield capacity taking into consideration decline in varietal yields as reflected in field tests on the one hand and varietal replacements on the other, amounted to approximately 7%.

Summary and Conclusions

The wide discrepancy noted during recent years between the average yield of sugar per ton of cane for the state as predicted from results of field tests and the value actually realized clearly indicates the importance of giving added attention to the problem of more satisfactorily adapting our present harvest procedure to the exacting demands of the crop and the factory. Obviously this suggests an intensive research attack on such problems as mechanical detrashing, selective topping, mud free loading, etc. In this connection a lot can probably be done by way of breeding varieties satisfactorily adapted to such mechanical processes. This possibility should not be overlooked in a concerted attack on trash and other problems related to mechanization of harvest. An intensified research attack on problems related to deterioration between cutting and milling is also indicated. This is a job for the Plan

Breeder as well as the Physiologist.

Our preoccupation with trash which is admittedly a big problem should not blind us to the still more important

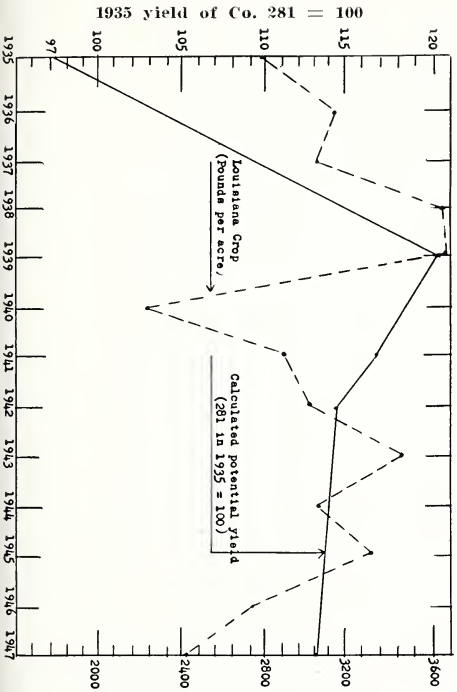

Fig. 8. Sugar per acre from Louisiana crop in relation to calculated potential yield of varieties in cultivation.

problem of maintaining our per-acre production of sugar. Declines in yield capacity of some of our principal varieties of the order revealed in this study cannot be regarded with any degree of complacency. "Varietal deterioration" as sometimes applied to what we have termed "loss in yield capacity" is a misleading term. Essentially the variety itself does not change. The environment is what changes. In fact the unchangeableness of a plant propagated vegetatively tends in itself to accentuate the problem. What happens is that a plant of fixed heredity, introduced into an environment comprising some unfavorable biological elements capable of adaptive variation, tends to suffer more and more as such environmental variations proceed in the course of time.

Quite frequently time-related depreciations in varietal performance can be correlated with an increase in extent of disease injury, even without the appearance of a new disease. Specific strains of mosaic for instance capable of attacking a given variety may be extremely rare at first and build up more and more as the variety is kept under cultivation, not to mention the possibility of mutations in the pathogen which may be specifically injurious to the variety involved.

But in considering changes which may occur in the complex environment under which the sugarcane plant grows and produces sugar, it would be erroneous to confine our thinking to terms of diseases only. As a matter of fact radical changes in cultural practices and field procedures which have occurred during the period under consideration could have contributed substantially either favorably or unfavorably to the sum total of the changing environment.

The job of weed control as done during recent years has not been as selective as in former years. Hoe gangs have virtually disappeared and we now attempt to control weeds by mass operations such as flaming and disking. Under this system infestations of Johnson grass have built up from year to year. Alligator weed had also been spreading at an alarming rate but fortunately we have in 2, 4-D an answer to this particular weed problem.

Damage to sugarcane plants in the use of cultivating implements is much greater than it used to be. In this connection the 3-row cultivator is a frequent offender. Late implement-cultivation in lieu of hand weeding at times causes extensive breakage. Furthermore, these complicated cultivating machines are frequently operated very carelessly with results little short of disastrous. Because of the extremely rapid transition of our cropping system from one involving use of simple animal-drawn implements to one involving complicated multiple-row units operated with powerful tractors it is understandable that the supply of skilled operators has not kept up with requirements. It has been my observation however that even with the best operators there is entirely too much of "the crop be damned" atti-

tude. I've seen operators of shavers and off-bar plows rip out seed pieces right and left through sheer carelessness with apparently little feeling of impropriety. If operators of plantation trucks would go about running into buildings or other property of a more tangible sort they would be promptly fired for carelessness. It is difficult to understand why equivalent damage through carelessness to the crop will be tolerated with indifference.

Finally a variety may contain in its very makeup some of the elements of its own destruction. For instance, the stimulated spread of Johnson grass and other weeds as a result of the poor shading capacity of C. P. 29/320 no doubt contributed materially to the increasingly bad field performance of the variety.

On the other hand, according to Dr. J. N. Efferson, economist of Louisiana State University, use of fertilizer on sugarcane increased from an average of 134 pounds per acre in 1939 to 232 pounds per acre in 1946. Figures for 1947 are not available. Since the trend has been toward use of materials of higher nitrogen content, the increase in rate of nitrogen application per acre was probably greater than indicated by the above figures. This factor which must have made some contribution toward greater per-acre production of sugar should be taken as further emphasis of the seriousness of declining yields over the period.

Unquestionably, the development of better varieties should receive prior consideration in an attack on the problem of diminishing production. Our breeding program carried on at Canal Point, Fla., the Panama Canal Zone, and accessory field stations has been developed over a period of years to a position of recognized leadership among similar projects in the world's sugar industries. Proved breeding varieties adapted to the needs of subtropical conditions are included in the large, valuable reference collection of varieties gathered by many plant exploring parties. Unique opportunities are at hand to utilize mature ideas and put into practice the accumulated know-how of modern sugarcane breeding. Better adapted varieties are visualized and can be developed. Only wholehearted support and cooperation are needed to meet the new problems presented by unfavorable factors and mechanized operations and to reverse the trend of diminishing production associated with them.

In addition we should, through appropriate research, make a critical re-examination of all of our field practices in relation to our changed system of cultivation. In this connection increased emphasis should be given to studies of weed-control methods that fit into the present scheme of mechanized culture. Possible refinements of the procedures now followed to minimize the damage to crop plants should also be investigated. An over-all study of the entire planting procedure to insure better stands would probably prove very profitable. In this connection studies of time of planting, depth of planting, rate of planting, size of seed pieces and preconditioning of seed material to improve germination should be conducted.

Studies should be made of the effect of changes in field practice on soil fertility. For instance burning of trash as now practiced probably destroys a greater proportion of the crop residue than formerly. It is important to know what will be the cumulative effect on soil fertility.

To summarize, recoveries of sugar per ton of cane during recent years have been greatly depressed as a result of trash and other extraneous material delivered to the factory with cane as now harvested and handled. This material in addition to causing extensive trouble in the grinding and sugar manufacturing processes has given exaggerated values to cane tonnages thus tending to hide declines in production of cane per acre suffered during recent years as a result of decreases in yield capacity of certain varieties in commercial culture. The fact that the yield of sugar per acre since 1939 has tended downward both on the basis of experimental results and in state production is taken as evidence that the breeding

program has not been effective enough to overcome the effects of disease encroachment and other unfavorable is taken as evidence that an intensified breeding program is needed to overcome the effects. Recommendations are:

(1) Increased attention to problems presented by present-day harvest procedures with a view of developing better machines, of devising means of minimizing deterioration losses, and of the production of varieties meeting more satisfactorily the exacting demands of the new system.

(2) An intensification of the variety breeding and testing program to increase production of sugar per ton of cane and per acre.

(3) A critical re-examination, through appropriate research, of all field practices in relation to our new system of cultivation.

(4) Studies of soil fertility in relation to changes in field practices.

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FERTILIZERS FOR SUGAR CANE

By J. Y. Oakes, David S. Byrnside, Jr., and M. B. Sturgis

From 1942 through 1944, preliminary field experiments on the fertilization of sugar cane were conducted at 20 different locations, 19 of which were on the terrace (Pleistocene) soils west of Bayou Teche. At 9 out of the 20 locations the highest yields of sugar were obtained from applications of nitrogen, phosphorus and potassium. At 6 locations the highest yields of sugar were obtained from applications of nitrogen and potassium. In 3 tests the largest amounts of sugar were secured from additions of nitrogen and phosphorus. In only two experiments did the use of nitrogen only give the best results.

In 1945, four more comprehensive and better controlled experiments were conducted. These experiments involved fertilization at two levels of nitrogen, one at 40 pounds of nitrogen per acre and the other at 60. The 1945 results show that the highest yields of sugar were obtained on stubble cane with applications of phosphorus and potassium with nitrogen at the 60-pound level. On plant cane the best results were obtained with the combinations with nitrogen at the 40-pound level. On the average the best adapted treatment for

TABLE 1. Effects of fertilizers on the yields of sugar cane and sugar on Iberia silty clay loam at Glencoe-Vachiere Plantation, Franklin, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilize	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. suga
0- 0- 0	20.29	17.20	13.83	80.41	189.72	3849	----	----
40- 0- 0	22.95	16.64	12.97	77.94	176.70	4055	2.66	206
40-25- 0	22.54	17.85	14.60	81.79	202.65	4568	2.25	719
40-40- 0	19.96	17.11	13.72	80.18	188.08	3754	—0.33	—95
40- 0-40	21.99	17.20	13.96	81.16	193.00	4244	1.70	395
40-25-40	21.96	17.48	14.18	81.12	196.28	4310	1.67	461
40-40-40	22.77	17.77	14.53	81.77	201.20	4581	2.48	732
60- 0- 0	23.37	16.92	13.67	80.79	188.08	4395	3.08	546
60-40- 0	24.06	17.77	14.49	81.54	201.20	4841	3.77	992
60- 0-40	23.73	17.39	14.03	80.68	193.00	4580	3.44	731
60- 0-60	25.01	16.55	13.43	81.15	183.18	4581	4.72	732
60-25-40	23.89	17.48	14.15	80.95	196.28	4689	3.60	840
60-40-40	21.85	16.83	13.85	82.29	191.36	4181	1.56	332
60-40-60	23.12	16.74	13.28	79.33	181.56	4198	2.83	349

Variety C. P. 29-103, plant cane; fertilized, April 23, 1947; harvested, December 4, 1947; three replications randomize in blocks.

The highest yield of cane, 25.0 tons, in this experiment was obtained from the 60-0-60 mixture. The highest yield o sugar, 4841 pounds pre acre, was from the 60-40-0 mixture, which was the only mixture that produced significantly mor sugar than 60 pounds of nitrogen alone. None of the treatments produced significantly more cane than the 40-poun application of nitrogen alone. The difference required for significance was 2.2 tons of cane.

TABLE 2. Effects of fertilizers on the yields of sugar cane and sugar on Iberia clay loam at Enterprise Plan tation, Jeanerette, Louisiana, 1947

Pounds per acre N-P_2O_2-K_5O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilize	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. suga
0- 0- 0	21.80	15.28	11.27	73.74	149.68	3263	----	----
40- 0- 0	18.36	16.43	12.74	77.54	171.90	3156	—3.44	—107
40- 0-40	28.79	14.63	11.60	79.29	154.38	4445	6.99	1182
40-25- 0	24.45	15.11	11.22	74.26	148.12	3622	2.65	359
40-25-40	25.32	16.25	12.67	77.97	171.90	4353	3.52	1090
40-40- 0	23.62	15.49	11.67	75.34	155.96	3684	1.82	421
40-40-40	30.10	15.63	11.98	76.65	160.70	4837	8.30	1574
60- 0- 0	22.12	16.47	12.49	75.83	168.70	3732	0.32	469
60- 0-40	25.78	15.20	11.31	74.40	149.68	3859	3.98	596
60- 0-60	23.94	15.91	11.96	75.17	160.70	3847	2.14	584
60-25-40	23.65	14.16	10.46	73.87	137.30	3247	1.85	—16
60-40- 0	24.19	15.87	12.16	76.62	163.90	3965	2.39	702
60-40-40	24.26	15.68	11.68	74.49	155.96	3784	2.46	521
60-40-60	25.74	15.49	11.62	75.02	154.38	3974	3.94	711

Variety, Co. 290, plant cane; fertilized, April 24, 1947; harvested, December 2, 1947; three replicates randomized i blocks.

The highest yield was obtained from the 40-40-40. The increase in yield from the use of this fertilizer was 8.3 tons c cane or 1574 pounds of sugar per acre. The 40-0-40 mixture also gave significant increases in cane and sugar. The leas difference for significance in this experiment was 6.5 tons of cane per acre.

tubble cane consisted of 60 pounds of itrogen, 40 pounds of P_2O_5, and 60 ounds of K_2O per acre.

Six experiments were conducted in 946 on very fine sandy loam, silt loam, nd silty clay loam soils. The 1946 rowing season was very wet and both lant and stubble cane responded prof- ably to nitrogen at the 60-pound-per- cre level. Generally, the best adapted reatment was 60 pounds of nitrogen, 5 pounds of P_2O_5, and 40 pounds of K_2O per acre, and the average increase n the yield of sugar from the com- ination of these amounts of plant food as approximately 1,800 pounds of ugar per acre. The increases in yields f sugar varied from 1,600 to 3,500 ounds per acre. The percentage of urity and the sucrose content were ot depressed by fertilizers. The 1946 esults show that more nitrogen could e used on the very fine sandy loam, lt loam, and silty clay loam soils of ne sugar cane area. The results also indicate that at a high level of nitrogen fertilization phosphate and potash may under some conditions be added profit- ably.

In 1947 nine experiments were con- ducted. Four of the experiments were with stubble cane and five were with plant cane. The 1947 growing season was very dry and the sugar cane on all the experiments except two, at Little Texas and Glencoe-Vachiere, suffered severely from the drought. There was also some hurricane damage, particu- larly at Enterprise and New Hope. In general, the yields were about 30 per cent below normal and the experimental errors were high.

The results from the five experiments with plant cane in 1947 are given in the following tables and show that the cane responded to fertilizers in three out of the five experiments. On Iberia silty clay loam at Glencoe-Vachiere the 60-0-60 gave the highest yield of cane and 60-40-0 gave the highest yield of

ABLE 3. Effects of fertilizers on the yields of sugar cane and sugar on Olivier silt loam at Youngs Industries, Youngsville, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilizer	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. sugar
- 0- 0	12.63	17.10	13.78	80.58	191.97	2425	----	----
- 0- 0	19.16	17.01	13.26	77.95	181.30	3474	6.53	1049
-25- 0	16.47	16.91	13.31	78.71	183.00	3014	3.84	589
-25-40	17.46	16.91	13.22	78.18	181.08	3162	4.83	737
-40- 0	18.68	17.10	13.41	78.42	184.00	3437	6.05	1012
-40-40	19.99	16.63	13.23	79.56	182.98	3658	7.36	1233
- 0-40	17.63	16.63	13.15	79.07	181.27	3196	5.00	771
- 0- 0	17.42	16.63	12.90	77.57	175.88	3064	4.79	639
- 0-40	14.18	16.63	12.50	75.17	167.26	2372	1.55	—53
- 0-60	20.35	16.53	13.01	78.71	178.88	3640	7.72	1215
-25-40	18.83	16.53	12.97	78.46	178.02	3352	6.20	927
-40- 0	18.78	17.10	13.41	78.42	184.00	3456	6.15	1031
-40-40	20.67	16.63	13.00	78.17	178.05	3680	8.04	1255
-40-60	17.08	16.44	12.31	77.92	175.12	2991	4.45	566

Variety, Co. 290, plant cane; fertilized, April 11 and 19, 1947; harvested, December 3, 1947; three replicates randomized blocks.

The highest yield was from the 60-40-60. The increase in cane was 8.0 tons and the increase in sugar was 1255 pounds sugar per acre. The 60-0-60 mixture gave a slightly lower but significant increase. The experimental error at this ation was high due to poor stand and drought. The least difference for significance was 7.5 tons of cane per acre.

ABLE 4. Effects of fertilizers on the yields of sugar cane and sugar on Iberia silt loam at Dr. J. L. Beyt's Plantation, St. Martinville, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilizer	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. sugar
- 0- 0	23.74	15.86	12.43	78.31	167.10	3967	----	----
- 0- 0	23.06	16.74	13.43	80.26	183.18	4224	—0.68	257
- 0-40	24.67	16.83	13.41	79.65	183.18	4519	0.93	552
-25-40	26.46	16.51	13.15	79.64	179.94	4761	2.72	794
-40-60	25.54	16.27	12.83	78.77	173.50	4431	1.80	464

Variety, C. P. 36-105, plant cane; fertilized, May 6, 1947; harvested, January 5, 1948; three replicates randomized in ocks.

The highest yield in this experiment was from the 40-25-40 treatment which increased the yield of cane 2.7 tons and e yield of sugar 794 pounds per acre. The least difference necessary for significance was 3 6 tons per acre. None of the tilizer treatments proved effective.

sugar, but these mixtures were not significantly better than 40 pounds of nitrogen alone. At Enterprise on Iberia clay loam the 40-40-40 produced the highest amounts of cane and sugar. In the experiment on Olivier silt loam at Youngs Industries the 60-40-40 gave the highest yield but was not significantly better than 40 pounds of nitrogen.

The 1947 results from fertilizing stubble cane are also given in the following tables. At Little Texas on Commerce silty clay loam the 60-25-40 mixture gave the highest yields of cane and sugar. The yields were 36.3 tons of cane and 6,996 pounds of sugar per acre. These increases were 17.1 tons more cane and 3,820 pounds more sugar than from the unfertilized check. On Iberia silty clay loam at St. John the 60-40-40 produced the highest yield but was not significantly better than 40 pounds of nitrogen. On Commerce very fine sandy loam at New Hope the 60-0-40 gave the highest yield of cane, while the 60-60-60 gave the highes yield of sugar. At Katy on Baldwi clay loam the 60-40-40 gave the highes yield, but the experimental error wa too high to establish significant differ ences between treatments.

It is still commonly recognized tha nitrogen is the most important elemen in the fertilization of sugar cane. Gen erally, 6 pounds of commercial nitroge applied to cane increases the produc tion approximately one ton. Th amount of nitrogen applied, which varie from 40 to 60 pounds per acre, is mor important than the source of nitroge Approximately equally good results hav been obtained from nitrate of soda, cya namid, ammonium sulfate, ammoniu nitrate and ammonia.

Fertilizer Recommendations for Suga Cane

To stubble cane in all areas excep where known deficiencies of phosphoru and potassium exist, apply 40 to 6

TABLE 5. Effects of fertilizers on the yields of sugar cane and sugar on Mhoon silty clay loam at the Ferna Price Plantation, Thibodaux, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertili	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. sug
0- 0- 0	19.59	17.4	14.23	81.8	190.64	3735	----	----
40- 0- 0	19.87	17.5	14.36	82.1	192.69	3829	0.28	94
40-25- 0	16.81	17.7	14.69	83.0	198.31	3334	—2.78	—401
40-40- 0	20.66	16.8	13.91	82.8	187.57	3875	1.07	140
40-25-40	19.87	16.9	13.71	81.1	182.73	3631	0.28	—104
40- 0-40	20.70	16.6	13.46	81.1	179.39	3713	1.11	—22
40-40-40	19.60	16.8	13.64	81.2	181.92	3566	0.01	—169
60- 0- 0	20.54	17.1	14.08	82.3	189.22	3887	0.95	152
60-40- 0	18.16	17.4	14.58	83.8	197.80	3592	—1.43	—143
60- 0-40	22.74	17.7	14.91	84.2	202.83	4612	3.15	877
60- 0-60	24.32	16.7	13.64	81.7	182.52	4439	4.73	704
60-25-40	21.49	17.9	14.84	82.9	200.24	4303	1.90	568
60-40-40	17.71	16.8	13.98	83.2	189.00	3347	—1.88	—388
60-40-60	19.67	16.4	13.39	81.6	179.06	3522	0.08	—213

Variety, C. P. 34-120, plant cane; fertilized, April 29, 1947; harvested, January 2, 1948; three replicates randomiz in blocks.

There were no significant differences in yields of either sugar cane or sugar between different treatments in this periment. The extreme weather conditions brought about by the summer drought and the September hurricane induc so much variation within treatments that the least difference for significance was 5.2 tons per acre.

TABLE 6. Effects of fertilizers on the yields of sugar cane and sugar on Commerce silty clay loam at Lit Texas Plantation, Napoleonville, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertiliz	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. su
0- 0- 0	19.19	16.23	12.34	76.03	165.50	3176	----	----
60- 0- 0	31.30	16.99	12.95	76.22	176.70	5531	12.11	235
60-25-40	36.25	17.68	13.96	78.96	193.00	6996	17.06	382
60-40-60	32.46	17.17	13.38	77.93	183.18	5946	13.27	277
60-60-60	31.27	18.87	14.23	79.63	196.28	6138	12.08	296

Variety, C. P. 36-105, second year stubble; fertilized, May 2, 1947; harvested, November 7, 1947; three replica randomized in blocks.

The application of 60 pounds of N, 25 pounds of P_2O_5 and 40 pounds of K_2O per acre increased the yield of sugar c 17.1 tons of cane and 3820 pounds of sugar per acre. The yield from this treatment was 36.3 tons of cane, while the yi of the unfertilized check was 19.2 tons of cane per acre. The yield from the complete fertilizer was also significantly hig than that from 60 pounds of N alone. The difference required for significance was 3.9 tons of cane.

ABLE 7. Effect of fertilizers on the yields of sugar cane and sugar on Iberia silty clay loam at St. John Plantation, St. Martinville, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilizer	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. sugar
)- 0- 0	11.63	14.9	12.62	84.70	170.30	1981	----	----
)- 0- 0	16.77	15.9	13.17	82.83	179.94	3018	5.14	1037
)-25- 0	15.95	14.9	12.77	85.71	173.50	2767	4.32	786
)-40- 0	15.32	14.5	12.61	86.82	170.30	2609	3.69	628
)- 0-40	16.08	16.9	14.38	85.09	199.56	3209	4.45	1228
)-25-40	17.01	16.9	14.44	85.44	199.56	3395	5.38	1414
)-40-40	18.94	16.1	13.59	84.41	186.44	3531	7.31	1550
)- 0- 0	16.56	15.9	13.17	82.83	179.94	2980	4.93	999
)-40- 0	17.90	15.0	12.33	82.20	165.50	2962	6.27	981
)- 0-40	17.21	15.8	12.95	81.90	176.70	3041	5.58	1160
)- 0-60	16.90	14.5	12.12	83.38	162.30	2743	5.27	762
)-25-40	18.26	14.9	12.58	84.43	170.30	3110	6.63	1129
)-40-40	19.76	15.4	12.98	84.29	176.70	3492	8.13	1511
)-40-60	17.08	15.1	12.16	80.53	163.90	2799	5.43	818

Variety, C. P. 29-103, first year stubble; fertilized, April 25, 1947; harvested, November 26, 1947; three replicates ndomized in blocks.

The highest yield, 19.8 tons of cane, was from the 60-40-40 mixture. The yield of the unfertilized check was 11.6 tons cane per acre, while the yield from 40 pounds of nitrogen only was 16.8 tons per acre. The increases from all the fertilizer eatments were significant but none was significantly better than 40 pounds of nitrogen alone. The difference required r significance was 3.3 tons of cane.

able 8. Effect of fertilizers on the yields of sugar cane and sugar on Commerce very fine sandy loam at New Hope Plantation, McCall, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilizer	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. sugar
)- 0- 0	11.78	16.08	12.19	75.81	163.90	1931	----	----
)- 0- 0	14.49	16.83	12.85	76.35	175.10	2537	2.71	606
)- 0-40	12.93	16.92	12.85	75.95	175.10	2264	1.15	333
)-25- 0	15.13	16.36	12.35	75.49	167.10	2528	3.35	597
)-25-40	14.72	16.57	12.54	75.68	168.70	2483	2.94	552
-40- 0	16.53	16.36	12.35	75.49	167.10	2762	4.75	831
)-40-40	13.36	16.36	12.54	76.65	168.70	2254	1.58	323
)- 0- 0	16.59	16.83	12.69	75.40	171.90	2852	4.81	921
)- 0-40	18.30	16.18	12.13	74.97	162.30	2970	6.52	1039
)- 0-60	15.17	16.27	12.73	78.24	171.90	2608	3.39	677
-25-40	17.10	16.08	12.48	77.61	168.70	2885	5.32	954
-40- 0	14.55	16.74	12.75	76.16	173.50	2524	2.77	593
-40-40	13.63	16.74	12.86	76.82	175.10	2387	1.85	456
-40-60	14.76	16.64	12.67	76.14	171.90	2537	2.98	606
-60-60	17.82	17.02	12.67	74.44	171.90	3063	6.04	1132

Variety, C. P. 34-120, second year stubble; fertilized, April 30, 1947; harvested, November 14, 1947; three replicates ndomized in blocks.

The highest yield, 18.3 tons, of cane per acre was secured from the 60-0-40 treatment. This yield was 6.5 tons more an the unfertilized check and 1.7 tons more than from the 60 pounds of nitrogen only. The difference required for sig- ficance was 6.4 tons per acre. The yields in this experiment were very low due to drought and Johnson grass infestation.

ABLE 9. Effects of fertilizers on the yields of sugar cane and sugar on Baldwin clay loam at Katy Plantation, Franklin, Louisiana, 1947

Pounds per acre N-P_2O_5-K_2O	Tons cane per acre	Normal Juice			Pounds 96° sugar		Increase from fertilizer	
		Brix	Sucrose	Purity	Per ton	Per acre	Tons cane	Lbs. sugar
- 0- 0	18.91	16.38	12.89	78.69	175.10	3311	----	----
- 0- 0	21.88	15.65	12.37	79.04	167.10	3656	2.97	345
- 0-40	20.49	16.47	13.57	82.39	186.44	3820	1.58	509
-25- 0	19.24	16.02	12.58	78.53	170.30	3277	0.33	—34
-25-40	23.36	16.20	12.89	79.57	175.10	4090	4.45	779
-40- 0	20.20	16.20	12.95	79.94	176.70	3569	1.29	258
-40-40	22.66	16.38	13.29	81.14	181.56	4114	3.75	803
- 0- 0	21.23	16.02	12.58	78.53	170.30	3615	2.32	304
- 0-40	23.38	15.47	12.19	78.80	163.90	3832	4.47	521
- 0-60	24.17	16.29	12.89	79.74	175.10	4232	5.26	921
-25-40	22.26	16.02	12.61	78.71	170.30	3791	3.35	480
-40- 0	24.33	16.11	12.76	79.21	173.50	4221	5.42	910
-40-40	24.61	15.93	12.44	78.09	167.10	4112	5.70	801
-40-60	21.63	14.83	11.49	77.48	148.04	3202	2.72	—109
-60-60	22.31	15.29	11.99	78.42	160.70	3585	3.40	274

Variety, Co. 290, first year stubble; fertilized, March 28, 1947; harvested, December 19, 1947; three replicates ran- mized in blocks.

The highest yield, 24.6 tons per acre, was obtained from the 60-40-40 mixture. This was 5.7 tons more than the yield m the unfertilized check. The least difference for significance at the 5% level was 6.0 tons. The high experimental or was due to extremely dry conditions during the growing season and also due to hurricane damage which resulted in le variations from the same treatments.

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pounds of nitrogen per acre by the use of either solid or liquid carriers. To plant cane except where very large growths of soybeans and winter legumes have been turned under, apply at least 40 pounds per acre of nitrogen.

For plant and stubble cane in all areas of low productivity:

1. Where only nitrogen is deficient use 40 to 60 pounds of nitrogen per acre.

2. Where nitrogen and phosphorus are deficient, apply 400 to 500 pounds of a 12-8-0 or 10-6-4.

3. Where nitrogen, phosphorus and potassium are deficient, apply 500 to 600 pounds of 9-6-9 or use 300 pounds of 6-8-12 or 3-12-12 supplemented with 40 pounds per acre of nitrogen from either solid or liquid carriers.

4. Where nitrogen and potassium are deficient, apply 400 to 500 pounds of 12-0-12 per acre.

It is well to note that mineral deficiencies are not likely to exist where heavy yields of soybeans and Melilotus are being obtained.

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SOME OBSERVATIONS ON WEATHER AND DISEASES IN RELATION TO THE SUGARCANE YIELD CURVE IN LOUISIANA SINCE 1935

By E. V. Abbott, Senior Pathologist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture.

A decline in the yield of cane per cre in Louisiana always results in a eeling of apprehension on the part of rowers and others dependent on the in- ustry that the history of the mid-20's ıay repeat itself. The recent down- ard trend in yields has led to some ear that we may be entering on an- ther period of varietal failure, and aturally there is a desire to know the ause of the lower yields. Yield trends re influenced by many factors, among hem the weather, diseases, varieties, ropping, cultivation and fertilizer prac- ces. A full explanation of all the ups nd downs of the yield curve, therefore, ıay not be a simple matter. It is the urpose of this report to discuss two actors, weather and diseases, as they ave effected cane yields since 1935.

Since the low point in the yield curve as reached in 1926, there have been ıree periods in which there was an up- ard trend, and a like number in which ıe trend was downward. The upward end from 1925-30 was broken by the ailure of P.O.J. 213 and the subsequent assing of the other P.O.J. varieties, but is decline was cushioned by the intro- uction and immediate rapid expansion f the Co. and C. P. varieties. Begin- ing in 1935, there was another upward end which reached a peak in 1938 nd 1939. This was followed by the harp drop in 1940, which resulted very ırgely if not entirely from the extreme old in January of that year. Again ıere was a period of recovery, with the ield of the years 1943-45 not far below ıat of 1938. Then came the disap- ointing drops in 1946 and 1947.

The weather and diseases are recog- ized as two of the most important actors governing yields of cane in Lou- iana. In some years their effects have een closely interrelated; in others, one has had a marked effect without being greatly influenced by the other. The role of diseases in the yield declines prior to 1926 and from 1929 to 1934, needs no review here. Some observa- tions on the influence of weather and diseases on the more recent yield de- clines may be of interest.

From McDonald's study of the weather in relation to sugar production in Louisiana published in 1926 (4), he concluded that "Wet, cold conditions at the beginning of growth mark low pro- duction years, and warm, dry weather in the same growth period favors higher yields". In 1938, Rands and Dopp (5) found that "The same but less striking relationships are evident for the hardier varieties that supplanted those on which the above (McDonald's) study was based".

In order to determine what relation- ship there might be between weather and the yield curve since 1935, the weather records for 4 localities in the sugar district were summarized for the months of January through March for the years 1935 to 1947, inclusive. Those chosen were Cinclare (north), Jeaner- ette (west), Houma (south), and Re- serve (lower river). McDonald based his study on the weather records of 3 stations, Baton Rouge, New Orleans and Abbeville, but it is believed that the 4 stations chosen for this review better reflect field weather conditions at the present time. Rainfall and temper- ature records were also summarized for the months of October through Decem- ber preceding the crop year, but the effects of departures from normal dur- ing that period were less apparent than for the winter months, when considered separately and in conjunction with the winter months.

In figure 1 are shown graphically (1) the average accumulated rainfall departure from normal (in inches) for the months of January through March, (2) the average accumulated temperature departure for those months (in degrees), and (3) the yield of cane in tons per acre for the period 1935-47, inclusive. The weather records were taken from the monthly summaries of the U. S. Weather Bureau, and the yield figures from "Agricultural Statistics" of the U. S. Department of Agriculture. The 1947 yield figure is the latest estimate of the Bureau of Agricultural Economics.

The curve for rainfall departure is roughly a mirror image of that for yield of cane, i.e., yields rose in years when rainfall was subnormal during the months of January through March, and declined when rainfall was much above normal. It appears from the graph that the rather sharp decline in yields in 1946 and 1947 was related to the excessive winter rainfall of those years.

Marked departures from normal in winter temperatures also corresponded with changes in the yield curve. It is generally recognized that the extreme cold of January 1940 was principally responsible for the low per acre yields of cane the following fall. Most of the accumulated deficiency in temperature for the winter of 1940 occurred in January. March temperatures averaged normal and in February they were only slightly below. Winter temperatures in 1941 and 1942 also averaged 10° and 11.6° below normal, respectively, and while yields were better in those years than in 1940, they were still somewhat below those for the years in which temperatures were normal or above. Also the effect of the extreme cold in 1940 was carried over in the crop year of 1941 since cane that was poor in 1940 was generally correspondingly poor as stubble in 1941.

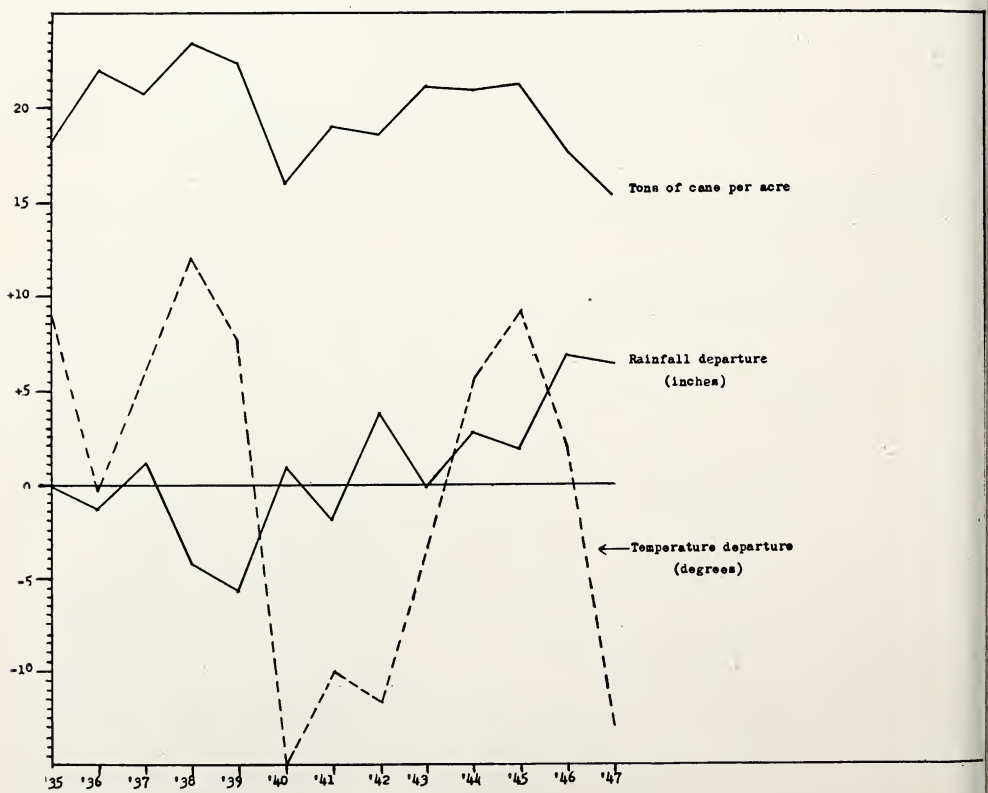

Fig. 1. Tons of cane per acre, and accumulated rainfall and temperature departures for the months of January through March at 4 stations in Louisiana for the years 1935-1747, inclusive.

The very low average temperatures in ne winter of 1947, accompanied as they ere by excessive rainfall, undoubtedly nfluenced the low yields of that year. verage temperatures were near record ows for both February and March, and n no year since at least 1900 had such cold March followed such a cold ebruary. The crop was very late in eginning growth in the spring, most stimates placing growth as anywhere om 3 to 6 weeks behind normal at ne beginning of the summer. Then ame the summer drouth, the worst nce 1924, which had a further de-ressing effect on yields obtained in the ll.

It is obvious from the foregoing that ne weather has had an influence on the ield of cane per acre in Louisiana dur-ng the past 13 years. To what extent ne effects of weather on yields are direct, and to what extent they are indirect as a result of their influence on disease intensity, can not always be readily determined. Low temperatures and excessive rainfall, which are in themselves unfavorable for good cane growth, are in turn favorable for the development of red rot and root rot; while warm, dry conditions favoring the cane, lessen development of these diseases.

Red rot was an important cause of reduced yields in 1947, particularly of the variety C. P. 34/120. Deficient stands of Co. 290 were also caused by red rot. The season was the most favorable for this disease since 1930 and 1931, and much of the unsatisfactory stands and delayed early growth of these varieties were attributed to it.

The effects of root rot are much less marked with the present resistant va-

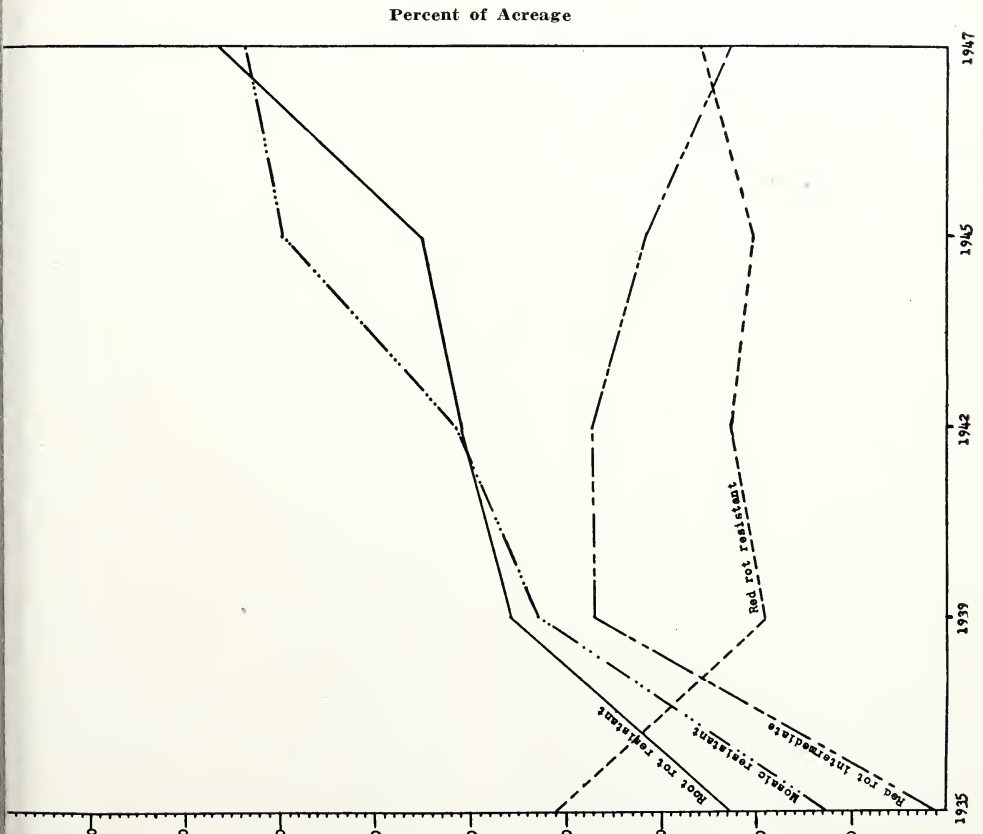

Fig. 2. Percentage of the sugarcane acreage in Louisiana occupied by varieties resistant to mosaic, root rot and red rot for the period 1935-1947, inclusive.

rieties than formerly when the susceptible Co. 281 and C. P. 28/19 were widely grown. With the weather conditions that prevailed during the winter and early spring of 1947, root rot doubtless caused some injury to all varieties, although it is not believed to have been a major factor in the low yields of that year.

In 1935, which was a year of relatively high yields, temperatures were near normal in January, and averaged considerably above normal in February and March; and while rainfall was slightly above normal during that period, it did not counterbalance the effect of temperatures favorable for early growth of the crop, and the absence of freezing weather later than January 16. Red rot losses were the lowest in many years, with an estimated 1 to 2 percent of the plant cane acreage being lost because of stand failures.

Varietal Resistance in Relation to Disease Injury

The extent to which the weather influences disease development depends to a considerable degree on the disease resistance of the varieties being grown. Since a more or less constant shift in varieties is taking place in Louisiana, it is pertinent at this point to consider the relative proportion of the acreage occupied by disease-resistant varieties during the period under review. This is shown graphically in figure 2.

The graph shows that there was a marked increase in the percentage of the acreage devoted to varieties resistant to mosaic between 1935 and 1947. This resulted from the discontinuance of the P.O.J.'s and later of Co. 281 as major varieties, a decrease in acreage of Co. 290 after 1939, and the corresponding replacement of them with such resistant varieties as C. P. 34/120 and C. P. 29/116. Also, the degree of control of the disease in Co. 290 attained in the western area in recent years has reduced the influence of mosaic on yields.

During this time there was a similar marked rise in the percentage of the acreage in varieties highly resistant to root rot. This resulted from the elimination of P.O.J. 36 and 213, which together occupied 34 percent of the acreage in 1935; of Co. 281, which reached its peak of 48 percent of the acreage in 1936; and of C. P. 28/19, which, while reaching a peak of only 13.1 percent of the total acreage in 1939, occupied 1 percent in the southeastern parishes. This, root rot has also diminished as cause of lowered yields.

Nevertheless, root rot still can not b entirely discounted. When weather con ditions are as favorable for root rot a they were in 1946 and 1947, the diseas delays germination, early growth an suckering to some degree even of resist ant varieties. It was, for example, factor in the poor stands obtained wit C. P. 29/120 (resistant) in the sprin of 1946. However, in recent years has not been directly responsible for th large scale stand losses it sometime caused with Co. 281 and C. P. 28/19.

Less progress has been made in ob taining commercially adapted varietie that are highly resistant to red rot, a though the percentage of the acreage i varieties of high and intermediate re sistance together was approximately th same in 1947 as in 1935. As has bee pointed out in previous reports, there greater difficulty in obtaining varietie highly resistant to red rot because o the absence in sugarcane of any suc high degree of resistance to this diseas as exists with respect to root rot an mosaic; the greater variability of th red rot fungus, with the constant ten dency for specialized races to arise; an the extent to which red rot developmen may be influenced by weather and othe environmental conditions, with even re sistant varieties showing some injur under certain conditions.

The discontinuance after 1935 o P.O.J. 234, the rapid elimination of Co 281 from its peak of 48 percent of th acreage in 1936 to less than 15 percen in 1939 and less than 1 percent in 194 and the corresponding increase in acre age of Co. 290, meant a loss so far a resistance to red rot is concerned. Als C. P. 34/120, which is not highly su ceptible to red rot, but which must b classed on the susceptible side of inte

nediate resistance, had expanded to occupy 17 percent of the acreage by 1945 nd 24 percent by 1947. This variety nd Co. 290, together with small acreges of other susceptible varieties, contituted over 50 percent of the 1947 rop. It should be noted, however, that ven with over 40 percent of the acrege in red-rot-susceptible varieties in 939 and 1945, yields above 21 tons per cre were obtained, showing that in ears of "good" weather, red rot losses nay not be great.

Another circumstance which makes ne situation with respect to red rot less erious than the bare figures on perentage of the acreage in susceptible arieties might indicate, is that the 2 nportant commercial varieties that are assed as susceptible to red rot, Co. 290 nd C. P. 34/120, are resistant to root ot and to stubble deterioration factors ther than red rot. This is a distinct dvantage in reducing the danger of evere loss or stand failure that exists ith varieties that are susceptible to nese diseases as well as to red rot. .O.J. 234, which is resistant to red rot, susceptible to mosaic, root rot and ubble deterioration; and Co. 281, hich is resistant to red rot, is susceptile to root rot and mosaic. Consequently, having a considerable acreage varieties that are resistant to red rot ut which have other serious disease eaknesses, may give a false impression security with respect to disease restance as a whole.

The release in 1945 of C. P. 36/105, hich is resistant to both red rot and oot rot, and its rapid expansion in antings for the crop years 1947 and 948, promises a distinct advance in imroving the picture with respect to restance to these diseases. Particularly nportant is the fact that C.P. 36/105 ill probably compete principally with . P. 34/120, thereby replacing acreage a variety which is intermediate in usceptibility to red rot with one which resistant to the diseases. C. P. 36/13, eleased in 1946, is also resistant to d rot.

Long Range Yield Trends

At the present time certain of the commercial varieties, some of which have been widely grown for more than a decade, are showing downward trends in yields. The evidence available regarding specialization of the fungi causing root rot and red rot (1, 5), offers plausible explanations for yield declines in both resistant and susceptible varieties. Taking the yields from the agronomy test field results, Rands and Dopp (5) expressed those of root-rot-susceptible varieties in terms of percentage of resistant varieties, since it was assumed the latter would be more stable over a period of years. They found that the yields of the root-rot-susceptible P.O.J. 234 and Co. 281 generally showed a downward trend as compared with the resistant varieties C. P. 807 and Co. 290. More recently, Arceneaux and Hebert (2, 3) made a similar study of the yields of several varieties based on a comparison with C. P. 29/116, which, as would be expected from its general disease resistance, has shown less tendency to decline than the other varieties. Their results show that both Co. 290 and C. P. 29/320 have declined in relation to C. P. 29/116. Red rot damage to the former variety is now more common than when it was first released, which may be explained both on the basis of specialization of the disease organism, and the weather. Mosaic also has doubtless had an influence on declining yields of Co. 290. There was a gradual build-up of infection in the variety after its release, and while good control has been attained on considerable acreages in the western section where Co. 290 predominates, many growers of the variety do not practice roguing.

With C. P. 29/320, which is more resistant to red rot than Co. 290, there has been at times moderate red rot loss. This also is explainable on the basis of the development of specialized forms of the red rot fungus, as well as adverse weather. It is possible also that there has been enough specialization of the root rot Pythium to cause some depression in yields, in particular under weather conditions favoring activity of that organism. As stated by Rands and Dopp "—the evidence of physiological

specialization of the root rot fungus and its apparent influence on yields shows that root rot must be looked upon as a dynamic rather than a static factor in sugarcane production". This is likewise true of red rot. Consequently, it may be expected that even resistant varieties may show some degree of decline in yields over a period of years of commercial culture, although, of course, there is less hazard of complete failure than with susceptible varieties. However, the task of isolating and determining the specific role of the various specialized forms of several disease organisms that may develop on any or all of the commercial varieties is somewhat beyond the limits of practical possibility.

The appearance of chlorotic streak in Louisiana about a decade ago injected another factor of uncertainty into the disease picture. While something over half of the acreage at present is in varieties that are susceptible to this disease, infection has not become sufficiently great in more than a few localities to have exerted any appreciable effect on yield trends as a whole.

Summary

A study of weather records at 4 representative localities in Louisiana in relation to yields of cane since 1935, shows that the good yields of 1938 and 1939 were obtained when winter (January-March) rainfall was below the average for the period, and when average temperatures were considerably above normal. Also, in 1943-45, when satisfactory yields weer obtained, rainfall was not far from normal, and temperatures varied from only slightly below to considerably above normal. On the other hand, the low yields of 1940, 1946 and 1947 were in years when winter rainfall was excessive, or temperatures were markedly below normal or both. A severe summer drouth in 1947 also depressed yields. It therefore seems apparent that weather has had a marked effect on the fluctuations in the yield curve that have occurred since 1935.

Weather conditions that have had an adverse effect on sugarcane, often have exerted a correspondingly favorable influence on the development of red rot and root rot. In the annual disease surveys it was found that these diseases caused relatively light damage in 1938, 1939 and 1945, while in 1947, red rot in particular was the most severe since the winters of 1930 and 1931.

Since 1935, considerable progress has been made in obtaining commercially adapted varieties more resistant to mosaic and root rot than those formerly grown. This has resulted in greatly lessened influence of these diseases on yield trends. There has been less change in the percentage of the commercial acreage in varieties that are resistant to red rot. This is owing to the rarity of resistance to this disease in breeding material, the greater variability of the red rot fungus, and the marked influence that weather conditions have on the extent of injury caused by this disease. However, the varieties now grown that are susceptible to red rot are more resistant to other diseases than those grown prior to 1935, which make them less liable to failure from the disease.

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V. M. GRAYSON

(Continued from Page 276)

verage; Group Number 2, 152 pounds er ton; and Group Number 3, 166 ounds. The average results of these) factories were in close agreement ith the State average for all of the 59 ills grinding, so it can be safely said hat the three groups were representative. Also, the milling equipment for ach group was analyzed and it was ound that each had about the same umber of rolls in the mill tandem, Group Number 1 having an average of 3.45 rolls, Group Number 2, 13.45 olls, and Group Number 3, 13.54 rolls.

The trash reports from the various ills were also analyzed, and in this ase it was found that Group Number appeared to have had considerably ss trash delivered in cane than either f the other two groups. This was, also, onfirmed by observation by the writer nd his two inspecting chemists, Messrs. pplebaum and Thomas, during the rinding season. In fact, five out of the even mills in this group are said to ave refused to accept trashy cane, hile only one of the twenty mills in he first group and only one of the nine ills in the second group refused dirty ane. This fact is further confirmed by he actual tabulated percentage of fiber cane as given by the mills in each roup. The average percentage fiber of roup Number 3 was 13.79 as against 5.85 for Group Number 1, 15.41 for roup Number 2, 15.27 the average of he 40 mills, and 15.15 the average for he entire State.

Other factors entering into theoretical roduction were found to be very much favor of Group Number 3, also. oiling House Efficiency of said group as 97.4 against 93.4 and 93.6 respecvely, of the other two groups and 4.4, the average for the 40 factories, nd 93.7, the average for the entire tate. The normal juice extraction of roup Number 3 was 73.4 as compared ith 69.3 and 71.1, respectively, for the her two groups, 70.7 for the 40 facries, and 70.6 for the entire State. A ere glance at the table shows that as e fiber in cane decreased normal ex-

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traction, Boiling House Efficiency, and recovery increased. Therefore, it appears that if it were possible for mills to eliminate excess trash and other extraneous matter, the production would revert back to the same high level it was prior to the advent of mechanical harvesting. It seems to the writer that it would be possible for the industry itself to control the trash problem if proper measures were taken to prevent one mill having an advantage over another by accepting cane without penalty simply for the purpose of increasing the volume of cane to grind. Also, in view of the very low production obtained by all mills attempting to grind during prolonged wet spells, it would appear to the writer to be more profitable for the mills to stop their own harvesting operations and attempt to control the harvesting operations of their shippers before the situation becomes acute. We realize that this is a difficult problem and must be attacked by the industry as a whole and not individually. Other factors, also, enter into the problem such as cutting by contract, cross hauling, fear of freeze with possible loss of large acreage at the end of the crop but it must be realized that if only reasonably clean cane is milled, the grinding rates will be so increased that it is quite possible for the crop to be finished in a normal time, in spite of stoppages on account of bad weather during the crop itself. The writer has observed from daily and run reports sent to the State Office as a part of the routine control, that during wet weather the yield per ton of cane would often fall below 140 pounds per ton of cane and within two days after the weather had cleared production at the same factory would jump to 160 pounds. The 20 pounds of sugar per ton of cane would take care of a lot of overhead.

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NEW VARIETIES

(Continued from Page 280)

TABLE V
FIRST YEAR STUBBLE CANE COMPARISON
Harvested 11-5-47
(Milled on Station Mill, approx. 60% extraction)

Variety	Brix	Sucrose	Purity	Height Mill Cane	Av. Stk. Wt.	Tons per Acre
P. 34-92	16.3	12.23	75.03	Very sl. cr. 4.50 - 5.25	1.49	20.87
P. 36-179	16.0	12.25	76.56	Some cr. 4.50 - 5.25	1.47	20.58
P. 36-183	16.0	12.54	78.38	Some cr. 4.00 - 4.50	1.50	20.40
P. 36-178	15.6	11.39	72.99	Sl. some cr. 4.00 - 5.00	1.38	20.18
o. 290	15.5	12.37	79.78	Sl. crooked 4.00 - 4.75	1.61	19.71
P. 34-120	15.3	11.79	77.06	Sl. crooked 5.00 - 5.50	1.81	19.49
P. 38-26	16.8	13.42	79.88	Sl. crooked 4.50 - 4.75	1.63	18.87
P. 36-161	16.1	12.52	77.76	Sl. crooked 4.00 - 4.50	1.32	18.80
P. 29-320	16.4	12.96	79.02	Sl. crooked 4.50 - 5.25	1.46	17.32
P. 29-116	15.6	11.81	75.70	Some cr. 4.00 - 5.00	1.78	17.24
P. 29-120	16.7	13.66	81.80	Very sl. cr. 4.00 - 5.00	1.58	16.70
P. 36-105	17.9	14.63	81.73	Very sl. cr. 4.50 - 5.50	1.66	16.59
P. 37-5	16.2	12.96	80.00	Very sl. cr. 4.00 - 4.50	1.61	16.30
P. 33-243	15.8	12.91	81.71	Sl. crooked 4.00 - 4.50	1.90	15.46
P. 36-13	15.7	12.30	78.34	Very sl. cr. 4.00 - 4.50	1.36	14.08
P. 36-197	16.6	13.83	83.31	Some cr. 4.00 - 4.50	0.99	13.65
P. 36-19	16.1	12.96	80.50	Very sl. cr. 4.50 - 5.00	1.23	13.50
36-819	17.2	13.93	80.99	Sl. crooked 3.50 - 4.00	1.55	11.80
o. 281	15.7	12.74	81.15	Str. 3.50 - 4.25	1.09	11.69
36-671	16.1	13.49	83.79	Sl. crooked 3.50 - 4.50	1.89	9.18
P. 36-203	17.0	13.12	77.18	Str. 4.00 - 4.75	1.67	8.86

Meeting of Contact Committee June 22nd.

A meeting of the Contact Committee the American Sugar Cane League ill be held at the Federal Experiment ation, in Houma, at 9:30 A.M. on uesday, June 22nd, 1948.

Reports from the Federal scientists ho are doing research work on the igar and sugar cane problems that ce the Louisiana sugar industry will e presented to the meeting and every- ne interested in the welfare of the In- ustry is cordially invited and urged to tend the meeting. The time is 9:30 .M. The place is the Houma Experi- ent Station, and the day is Tuesday, ne 22nd.

TABLE VI
FIRST YEAR STUBBLE CANE COMPARISON
(SMALL PLOTS)
Harvested 11-5-47
(Milled on Station Mill, approx. 60% extraction)

Variety	Brix	Sucrose	Purity	Height Mill Cane	Av. Stk. Wt.	Tons per Acre
C.P. 36-160	16.7	13.12	78.56	4.50 - 6.00 Sl. crooked	1.45	21.96
C.P. 43-28	16.0	12.35	77.19	5.00 - 5.50	1.50	20.87
C.P. 43-9	16.6	12.93	77.89	5.50 - 6.00 Sl. crooked	1.54	18.73
C.P. 34-139	17.6	13.53	76.88	4.00 - 4.50	1.23	17.86
C.P. 34-120	16.2	12.40	76.54	4.50 - 5.25	1.19	17.82
C.P. 43-3	16.4	12.59	76.77	4.00 - 5.00	1.49	17.06
C.P. 43-33	19.0	15.46	81.37	4.00 - 4.75	1.12	16.88
C.P. 43-32	18.3	15.24	83.27	5.50 - 6.00	1.66	16.41
C.P. 36-80	16.3	12.93	79.33	4.50 - 5.00 Sl. crooked	1.38	15.61
C.P. 36-185	17.0	13.58	79.88	5.00 - 5.75	1.55	15.46
C.P. 33-425	18.9	16.04	84.87	4.00 - 5.00 Sl. crooked	1.35	14.99
C.P. 29-120	17.7	14.50	81.91	3.50 - 4.25	1.06	13.98
C.P. 29-116	16.9	12.67	74.97	4.00 - 4.50 Sl. crooked	1.66	13.58
C.P. 28-11	20.0	16.59	82.95	4.50 - 5.00	0.97	13.32
C.P. 43-47	17.9	14.50	81.00	4.00 - 4.50	1.20	11.58
C.P. 29-320	19.1	16.13	84.45	4.50 - 5.00	1.12	11.00
C.P. 34-120	16.5	13.42	81.33	3.50 - 4.75 Sl. crooked	1.10	10.74
C.P. 36-191	16.5	12.74	77.21	5.00 - 5.75	1.72	10.35
C.P. 43-49	15.2	11.29	74.28	4.75 - 5.25 Sl. crooked	1.65	9.58
F. 31-762	17.4	14.04	80.69	3.50 - 4.00 V. cons. cr.	1.04	8.78
C.P. 28-19	19.3	16.58	85.91	4.00 - 4.75	1.10	8.57
C.P. 33-310	17.8	13.34	74.94	3.50 - 4.00 Sl. crooked	1.06	7.44
C.P. 29-103	19.8	16.21	81.87	3.00 - 3.50 Sl. crooked	1.39	7.08
C.P. 34-143	17.09	14.86	83.02	3.50 - 4.50	1.17	5.26

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TABLE VII
SECOND YEAR STUBBLE CANE COMPARISON
Harvested 10-20-47
(Milled on Station Mill, approx. 60% extraction)

Variety	Brix	Sucrose	Purity	Height Mill Cane	Av. Stk. Wt.	Tons per Acre
C.P. 36-55	16.5	12.08	73.21	Sl. some cr. 4.50 - 5.25	1.09	19.20
C.P. 36-183	14.7	10.73	72.99	Sl. crooked 3.75 - 4.25	1.08	16.19
C.P. 38-18	16.8	12.20	72.61	Very sl. cr. 3.50 - 4.50	0.91	15.10
C.P. 38-26	16.2	12.54	77.41	Sl. crooked 4.00 - 4.50	1.23	14.85
C.P. 34-120	15.1	10.88	72.05	Sl. crooked 4.00 - 5.00	1.17	14.81
C.P. 29-320	16.4	12.47	76.04	Very sl. cr. 4.50 - 5.25	1.19	14.34
C.P. 37-5	16.1	11.95	74.22	Sl. crooked 3.75 - 4.50	1.26	14.34
C.P. 36-13	15.2	10.63	69.93	Sl. crooked 4.00 - 4.50	1.89	14.27
C.P. 33-243	16.6	13.74	82.77	Very sl. cr. 4.00 - 4.50	1.74	14.23
C.P. 36-161	14.7	10.03	68.23	Sl. crooked 3.75 - 4.25	0.95	14.19
Co. 290	14.9	10.83	72.68	Sl. some cr. 3.50 - 4.00	1.24	14.05
C.P. 29-116	15.2	10.06	66.18	Some cr. 3.00 - 3.50	1.27	13.00
C.P. 36-105	17.2	13.05	75.87	Sl. crooked 4.50 - 5.00	1.35	12.89
C.P. 36-203	16.3	11.81	72.45	Sl. crooked 3.50 - 4.50	1.23	11.87
C.P. 34-92	16.1	11.56	71.80	Str. 3.50 - 4.50	0.96	10.06
C.P. 36-197	16.7	13.35	79.94	Sl. some cr. 4.00 - 5.00	0.97	9.98
C.P. 29-120	17.4	13.17	75.68	Very sl. cr. 3.50 - 4.00	0.90	9.76
C.P. 36-209	14.4	8.68	60.27	Sl. crooked 3.75 - 4.50	1.26	8.75
Co. 281	15.2	10.83	71.25	Sl. crooked 3.50 - 4.00	1.18	8.21
F. 36-819	15.3	10.25	66.99	Cons. cr. 2.50 - 3.50	none	7.87
F. 36-671	17.0	14.09	82.88	Sl. some cr. 3.50 - 4.00	1.16	4.17

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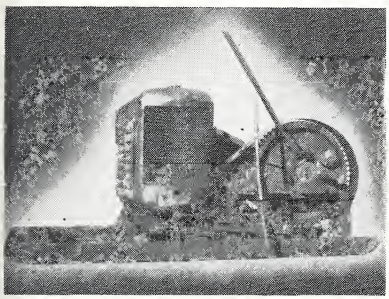

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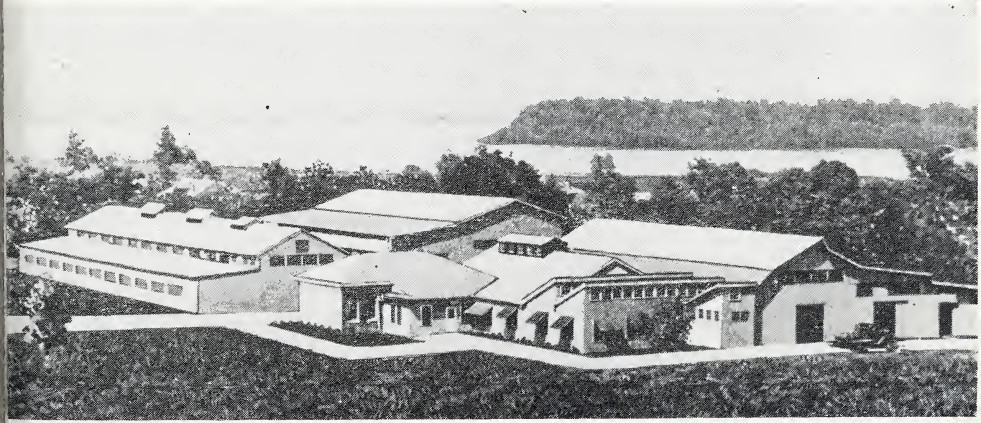

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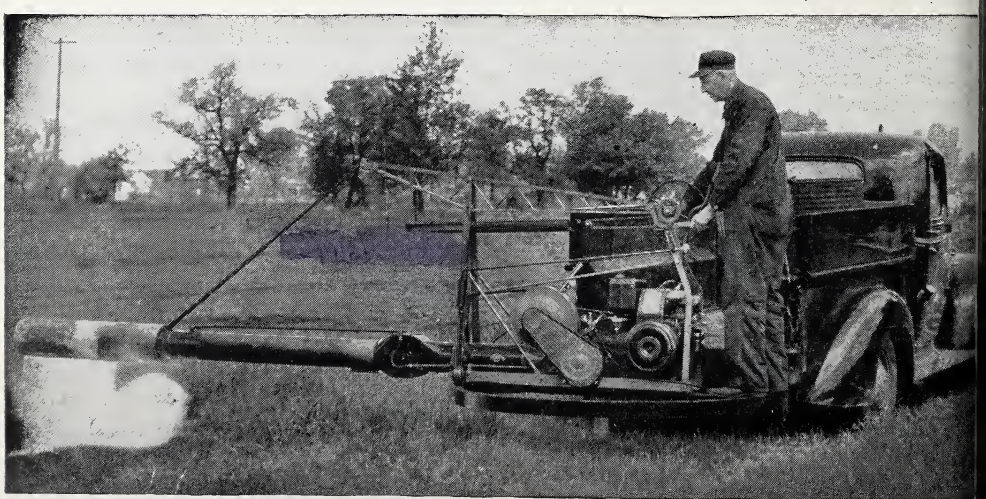

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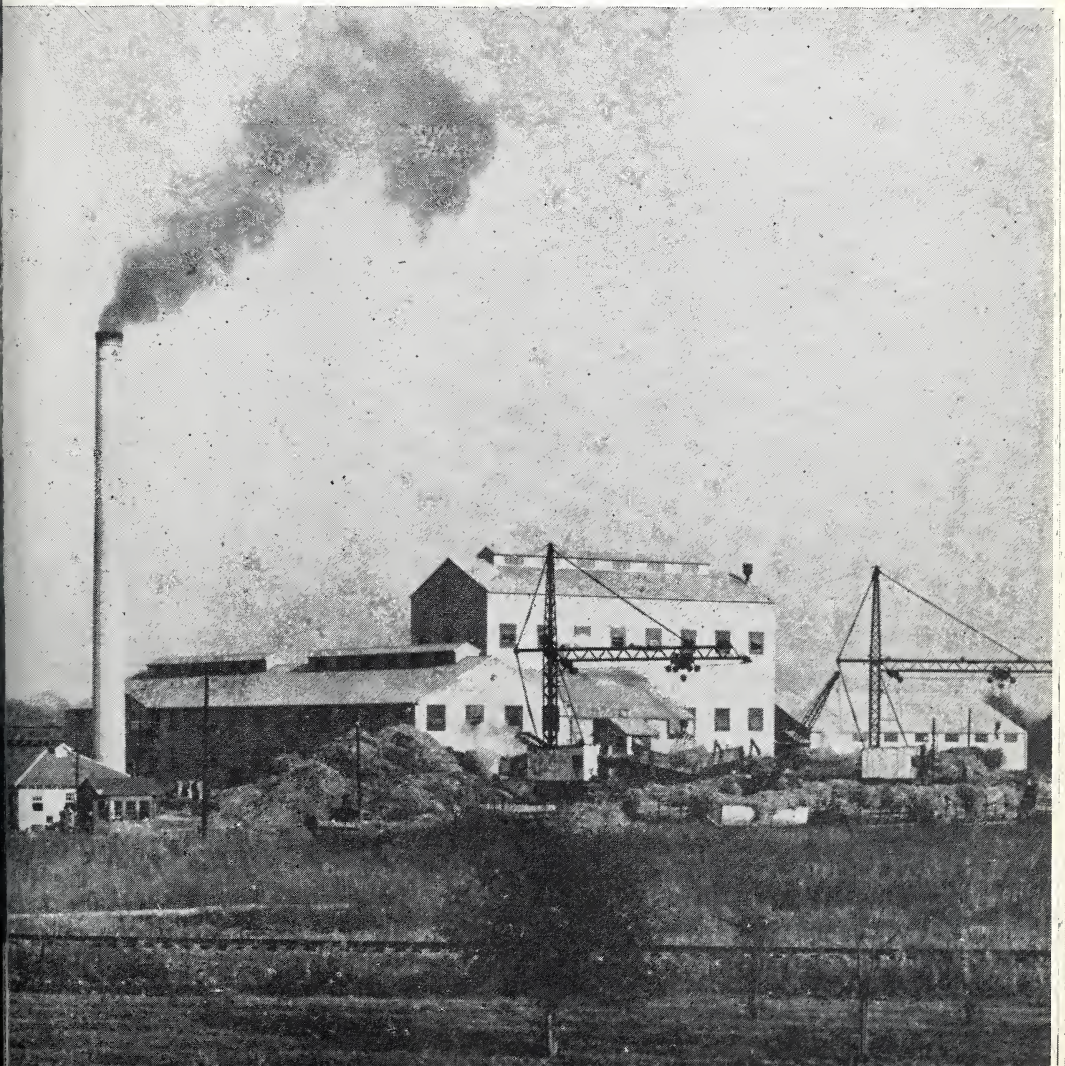
26 NEW ORLEANS, LA., JULY 1, 1948 No. 19



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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IN WASHINGTON WITH C. J. BOURG

The official determination of the Secretary of Agriculture, when he reduced his 1948 consumption estimate from 7,500,000 to 7,000,000 tons, contained a statement of bases and considerations of significance for the domestic sugar industry. Briefly stated, his explanation works out in this way.

	short tons, raw value
1. Actual Consumption in 1947	7,431,000
2. Allowance for Year-End Inventory Surplus	350,000
	7,081,000
3. Allowance for Increase in Population	119,000
	7,200,000
4. Relationship between Prices and Cost-of-Living	200,000
Present Consumption Estimate	7,000,000

The Secretary explained that in arriving at this determination, he had interpreted Section 201 of the Sugar Act to be applicable to present conditions in the following manner (we quote a paragraph from the official determination):

"4. *The relationship between prices at wholesale for refined sugar and the general cost of living in the United States obtained during* 1947 *prior to the termination of price control of sugar.* During the first ten months of 1947 the average basis price for refined cane sugar at wholesale was 8.26 cents per pound. During the same period the consumers' price index averaged 157.8. On the basis of available information it appears that maintenance of a ratio of sugar prices to cost of living in 1948 equivalent to the ratio prevailing during the first ten months of 1947 requires an increase over the present price of sugar. Accordingly, a further reduction of 200,000 short tons, raw value, is provided for in this revision of the determination of the consumption requirement to obtain 'prices which will not be excessive to consumers and which will fairly and equitably maintain and protect the welfare of the domestic sugar industry * * * '."

This statement of the Secretary is a recognition that in the administration of the Sugar Act, he is required to maintain the relationship between the price of sugar and the cost of living. Thus, the precedent established by the reasons given for the reduction in Paragraph 4 above becomes of paramount importance for the future.

Currently, action in the sugar market indicates stabilization in price as a result of the determination of the Secretary, especially in connection with raw sugar, on the quotations of which the price of sugarcane is based in Louisiana. The Department of Agriculture has published corrected statistics on distribution for U. S. consumption during January-May which demonstrate that the 1948 figures of 2,404,129 tons are greater than the distribution for U. S. consumption in the first five months of 1947, amounting to 2,359,939 tons. During the first three months of 1948,

(Continued on page 333)

UNITED STATES EMPLOYMENT SERVICE REPORT ON PROGRESS OF FARM PLACEMENT PROGRA

(Prepared at the Request of the Senate Committee on Agriculture and Forestry and the House Agriculture Committee)

The normal increase in agricultural employment expected at this season of the year has not materialized at this time. Rain and cool weather in many areas have retarded the planting and growth of crops, with a consequent lessened demand for field labor. California reports that, "Many spring activities are approaching a peak and hurried last minute plantings of rice, tomatoes, and other crops indicate that some acreages for harvest may exceed earlier expectations. Available labor is rapidly being absorbed and some areas are beginning to express concern over the adequacy of the future supply of workers." Our Wisconsin agency advises us that, "Cool wet weather during the past two weeks has slowed the efforts of the truck growers and beet farmers to meet their planting goals. As a result the need for agricultural workers for sugar beet work will be delayed several weeks. In many areas this will mean that thinning and blocking operations will fall at the time that beet labor is generally used for other work." From the State of Washington we are informed that, "Developments since issuing the pre-season report of May 7 reveal that cold wet spring weather has further delayed planting and cultivating operations throughout the entire state. Because of this, two significant factors must be considered. First is the fact that some out-of-state workers who voluntarily migrated into the state and failed to find work are reported to be leaving. Secondly, delayed planting and slow development of early plantings of such crops as peas for processing will cause a telescoping of harvest periods. This will create a greater demand for workers and shorten the peak period in both field and cannery activities." Situations such as these may result in an overlapping of harvests and create greater than normal labor demand to be met in such periods. At the present time there are no maj shortages of labor but there are nume ous instances where small numbers agricultural workers are needed.

The demand for general farm han and dairy hands is being met only wi great difficulty. The Employment Se vice is using every means at its di posal to meet this problem. While th segment of the agricultural labor pro lem has not received the publicity a tached to the seasonal labor situatio it is of vital importance to agricultu that it be solved as far as possible. correspondent writes: "Regarding t farm labor situation here in Ne Hampshire I would say that it wou be fully as acute during the harvesti season as it has been in recent yea Industrial employment is high and a parently will continue to be so." Fro Iowa: "At a recent meeting of the Io Farm Labor Advisory Council a poi of lively discussion was the pronounc shortage of farm day workers. Comi so early in the season, it was disturbi news, for later months will certain bring widespread and rather heavy d mands. . . . When full-time jobs a relatively plentiful it is only natural th day work should become less acceptab These men go into many different typ of industry, from packing houses brickyards, and those are the places shall find them."

The Shade Tobacco Growers Ag cultural Association writes us as f lows: "It is our feeling that there w continue to be a serious shortage local domestic workers as long as i dustrial and construction firms contin their operations at high level. If did not have any foreign workers this area, it would be impossible maintain agricultural production at an thing like its present level. . . . T importance of keeping the Senate a House Committees on Agriculture i

(Continued on page 333)

YOUR COUNTY AGENT REPORTS

General Crop Conditions in Iberia Parish as of June 26, 1948

by

W. E. Williams, County Agent
Iberia Parish, Louisiana

MR. WILLIAMS

Sugarcane is suffering from drought. t is estimated that the dry weather has ready lowered the possible yields of ne in this parish as much as one to vo tons per acre. Unless we have eavy rains within a week or ten days eld will probably be lowered another n or two. Before the drought began do serious damage to our cane, which as about three weeks ago, we had rospects of an 18 to 20 ton yield per re but due to the drought we have en experiencing, and are still experi- ncing at this date, the possibilities are at our final yields will be two to four ns per acre less than we would have alized if it had not been for the rought.

Corn is suffering heavily for the lack rain. Old corn is suffering most and yields will possibly be lowered as much as 25 to 30 percent below what we expected before the drought set in.

Cotton is not suffering as yet and prospects for a good crop still holds. However, if we don't have rain in a week or ten days cotton yields will be cut.

Truck crops are suffering from the drought and yields will be reduced.

Rice is doing nicely, so is Johnson grass in lots of fields. More farmers are joining the Johnson grass fighting army every day. It is conservatively estimated that between 1500 and 2000 acres of Johnson grass infested land is being fallow plowed this summer. This is just a preview of what is to come if we don't get mighty busy fighting Johnson grass.

St. Landry Parish

The cane crop is progressing well in . Landry Parish, according to a re- ort from A. K. Smith, Jr., dated June rd, but rain is badly needed in most ctions of the Parish. Mr. Smith states at some areas have had but little in and others only showers since April t. Good showers, he says, were re- ived in the Arnaudville section of the rish during the week of the 23rd.

Lafourche Parish

The news from Lafourche Parish is also on the bad side with A. C. Moreau reporting on June 28th that the cane, while still in good condition, was badly in need of rain. Mr. Moreau says that some of the corn crop in his district has been lost because of the continued dry, hot spell of weather, although sections have fared better than others as far as moisture is concerned.

REVISED SUGAR QUOTAS FOR 1948

TITLE 7—AGRICULTURE

Chapter VII—Production and Marketing Administration (Sugar Branch)

[General Sugar Quota Regulations, Series 10, No. 1, Amdt. 2]

PART 821—SUGAR QUOTAS

Sugar Quotas for 1948

By virtue of the authority vested in the Secretary of Agriculture by the Sugar Act of 1948 (61 Stat. 922) and the Administrative Procedure Act (60 Stat. 237), General Sugar Quota Regulations, Series 10, No. 1 (13 F. R. 133), as amended (13 F. R. 1303), establishing sugar quotas for 1948, are hereby further amended as hereinafter set forth.

Basis and purpose. The amendments herein are issued pursuant to the Sugar Act of 1948 and are made for the purpose of giving effect to the revision of the determination of sugar consumption requirements made by the Secretary of Agriculture on May 26, 1948.

After setting forth quotas in specific amounts for domestic sugar producing areas and the Republic of the Philippines, section 202 of the act provides that the difference between the sum of such quotas and the consumption estimate shall be prorated to foreign countries other than the Republic of the Philippines on the basis of stated percentages. Since the Sugar Act makes the revision of quotas a mere mathematical computation, it is hereby determined and found that compliance with the notice and procedure requirements of the Administrative Procedure Act is unnecessary. Furthermore, under section 202 of the Sugar Act, the Secretary of Agriculture is required promptly to revise existing quotas whenever there is a change in the determination of consumption requirements. Accordingly, it is hereby found that compliance with the 30-day effective date requirement of the Administrative Procedure Act is impracticable and contrary to the public interest and the amendments made herein shall become effective on the date of their publication in the Federal Register.

General Sugar Quota Regulations, Series 10, No. 1 (13 F. R. 133), as amended (13 F. R. 1303), are hereby further amended as follows:

1. Section 821.4 is changed to read:

§ 821.4 *Revised quotas for other areas.* There are hereby established pursuant to subsections (b) and (c) of section 202 of the act, for foreign countries for the calendar year 1948, the following quotas:

Area	Quotas in terms of short tons raw value
Republic of the Philippines	982,0
Cuba	1,726,2
Other Foreign Countries	23,8

2. Paragraph (a) of § 821.6 is changed to read:

§ 821.6 *Proration of quota for foreign countries other than Cuba and the Republic of the Philippines*—(a) *Revised prorations.* The quota for foreign countries other than Cuba and the Republic of the Philippines is hereby prorated, pursuant to subsection (c) of section 202 of the act, among such countries as follows:

Country	Proportionate shares in pounds, raw value
Belgium	280,
Canada	537,
China and Hongkong	274,
Czechoslovakia	250,
Dominican Republic	6,350,
Dutch East Indies	201,
Guatemala	318,
Haiti, Republic of	877,
Honduras	3,269,
Mexico	5,744,
Netherlands	207,
Nicaragua	9,734,
Peru	10,584,
Salvador	7,817,
United Kingdom	333,
Venezuela	276,
Other Countries	40,
Subtotal	47,100,
Unallotted Reserve	500,
Total	47,600,

Statement of bases and considerations. The revised quotas for Cuba and "Other Foreign Countries" have been established by prorating the amount by which the revised estimate of consumption exceeds the quotas for domestic areas and the Philippines on the basis of 98.64 per centum to Cuba and 1.36 per centum to "Other Foreign Countries", as provided in section 202

of the act. In addition, as provided in section 202 (c), the revised quota for "Other Foreign Countries" has been prorated on the basis of the prorations of such quota in effect for the calendar year 1937.

After giving effect to the changes set forth in General Sugar Quota Regulations, Series 10, No. 1, and Amendments 1 and 2 thereto, the current sugar quotas, in terms of short tons, raw value, for the several domestic sugar producing areas, Cuba, the Republic of the Philippines, and "Other Foreign Countries" are as shown in table below:

(Secs. 201, 403, Pub. Law 388, 80th Cong; 61 Stat. 922)

Done at Washington, D. C., this 4th day of June 1948. Witness my hand and the seal of the Department of Agriculture.

[Seal] CHARLES F. BRANNAN,
Secretary.

[F. D. Doc. 48-5161; Filed, June 9, 1948; 8:51 a. m.]

Production area	Basic quota	Proration of deficit in quota for Hawaii	Proration of deficit in quota for Philippines	Adjusted quota
Domestic beet	1,800,000	47,738	----------	1,847,738
Mainland cane	500,000	13,260	----------	513,260
Hawaii[1]	1,052,000	(152,000)	----------	900,000
Puerto Rico[2]	910,000	24,134	----------	934,134
Virgin Islands	6,000	159	----------	6,159
Philippines[3]	982,000	----------	[6](692,000)	290,000
Cuba[4]	1,726,200	66,709	657,400	2,450,309
Foreign countries:[5]				
Belgium	140.1	----------	198.5	338.6
Canada	268.7	----------	380.5	649.2
China and Hongkong	137.2	----------	194.3	331.5
Czechoslovakia	125.4	----------	177.6	303.0
Dominican Republic	3,175.4	----------	4,496.8	7,672.2
Dutch East Indies	100.7	----------	142.5	243.2
Guatemala	159.5	----------	225.8	385.3
Haiti, Republic of	438.5	----------	621.5	1,060.3
Honduras	1,634.5	----------	2,314.7	3,949.2
Mexico	2,872.3	----------	4,067.5	6,939.8
Netherlands	103.7	----------	146.9	250.6
Nicaragua	4,867.1	----------	6,892.4	11,759.5
Peru	5,292.3	----------	7,494.7	12,787.0
Salvador	3,908.8	----------	5,535.3	9,444.1
United Kingdom	167.0	----------	236.5	403.5
Venezuela	138.1	----------	195.6	333.7
Other Countries	20.4	----------	28.9	49.3
	23,550.0	----------	33,350.0	56,900.0
Unallotted	250.0	----------	1,250.0	1,500.0
Subtotal	23,800.0	----------	34,600.0	58,400.0
Total	7,000,000.0	----------	----------	7,000,000.0

[1] Of Hawaii's adjusted quota, 29,616 tons may be direct-consumption sugar.
[2] Of Puerto Rico's adjusted quota, 126,033 tons may be direct-consumption sugar.
[3] Of the Philippine's adjusted quota, 59,920 tons may be direct-consumption sugar.
[4] Of Cuba's total adjusted quota, 375,000 tons may be direct-consumption sugar.
[5] Original quotas for "All other foreign countries" may be filled with direct-consumption or with raw sugars. Prorations of the Philippine deficit to "all other foreign countries" may be filled only with raw sugar.
[6] Deduct this amount from original quota.

Java Sugar Purchased for Use in Japan

The United States Department of Agriculture has announced that on May 19 the Commodity Credit Corporation contracted with the Netherlands Indies Organization for the Marketing of Sugar (NIVAS), and the Netherlands Indies Government, for the purchase of approximately 15,000 long tons of Java direct consumption sugar. This sugar will be used in Japan for United States Army civilian feeding.

Under the contract, the CCC will pay 5.22 cents per English pound of sugar (Head Sugar No. 16 Dutch Standard or higher, polarizing 98.0 degrees or better on delivery) delivered at Kobe, Japan. With polarization expected to average 99.0 degrees or better, this price is comparable to the f.a.s. price of 4 cents per pound, basis 96 degrees raw sugar, recently paid by CCC for 1,000,000 tons of 1946 crop Cuban sugar.

Delivery on the Javan sugar is contemplated for July and August of this year.

CONTACT COMMITTEE ADOPTS SUB-COMMITTEE VARIETY REPORT

The Contact Committee of the American Sugar Cane League, and over 100 sugarcane farmers, met at the U.S.D.A. Experiment Station in Houma on June 22nd to receive the reports of the Federal Scientists working on sugar problems.

At this meeting the following report of the Sub-Committee was presented and unanimously adopted.

The Sub-committee of the Contact Committee meeting with representatives of the Federal Station at Houma and the State Station at L.S.U. was called to order by Chairman Stephen C. Munson at 10:00 A. M. at the Albania Plantation, on Friday June 4th with the following present:

Stephen C. Munson, Chairman, E. C. Simon, George Arceneaux, Elliott Jones, E. N. Summers, R. H. Barrow, L. C. Bourgeois, Jr., E. V. Abbott, Leo P. Hebert, C. B. Gouaux, L. C. Mayeux, E. P. Munson, I. L. Forbes, A. L. Dugas and Marcel J. Voorhies.

Following full discussions the subcommittee adopted the following recommendations to be presented to the full Contact Committee at the meeting held at the Houma Federal Station on June 22nd.

1. That the following unreleased varieties be increased to the maximum of the seed supply by the Secondary Stations and Test Fields.

C. P. 43-47 C. P. 44-153
C. P. 44-101 C. P. 44-155

NOTE—Variety C. P. 43-47 has a fiber content similar to Co. 281 but may not mill as well. It probably will mill similar to C. P. 36-105.

2. Increase to not over five (5) acres the following varieties.

C. P. 43-3 C. P. 43-9

NOTE—These two varieties have a fiber content similar to and will probably mill similar to C. P. 34-120.

3. That increase of the following unreleased varieties be discontinued.

C. P. 34-139 F. 36-819
C. P. 36-197 C. P. 37-5
C. P. 36-203

4. That the production of F. 31-762 growing on Katy Plantation (John M Caffery) be distributed among the eighteen (18) Secondary and Primary Stations and Test Fields in the Teche Area. It is recommended that those securing a supply from Mr. Caffery either pay an amount to be agreed per ton or exchange millable Co. 290 ton for ton at the pleasure of Mr. Caffery.

5. Distribute from the Primary Stations to the Secondary Stations and Test Fields the following variety.

C. P. 44-92

6. For the propagation of unreleased varieties the Test Fields and Secondary Stations be treated alike and on the same basis. In other words, they be given equal amounts of unreleased cane to propagate.

Editor's Note: No sugarcane variety was recommended for release for commercial planting this year.

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TRASH MEASUREMENTS AT LOUISIANA SUGAR FACTORIES

By C. W. Stewart, Audubon Sugar Factory

Trash is not a temporary condition ut a permanent problem for the Lou- iana sugar industry. The gravity of his problem increases as mechanization xpands. Mechanization will continue to xpand and with the present type of ane harvesting equipment and methods, e cane trash problem, if not corrected, ill become an increasing burden on the ouisiana sugar factories.

In the consideration of trash measure- ents I propose that cane trash be de- ned as any material delivered to the gar factory in conjunction with the gar cane from which no sugar is ob- inable. In other words any material her than the well cleaned properly pped stalk of sugar cane. This ma- rial or trash may consist of cane aves, tops, roots, soil, weeds, grass, etc.

Trash exerts a detrimental effect on e entire sugar factory operation. In pport of this statement I would like present: a, the weight effect of trash cane; b, effect of trash on mill capa- ty; c, increased milling losses caused expanded bagasse production due to ash; d, introduction of impurities into e process when trashy cane is milled.

a. *The weight effect of trash in cane.* he general procedure for trash deter- ination is as follows: cane delivered to e mill is sampled and after separating ash from cane a percentage is estab- shed by weight differences. After this rcentage is established a correspond- g deduction is made for the trash und to be present.

It is very important that these tests made as near correct as possible. he collection of the sample is the dif- cult part of the operation. If a sample pulled from a closed bundle of cane ost of the trash is stripped off and mains in the bundle. The size of the mple and the method of collecting it e very important in securing correct sults.

The chains holding the bundle of cane should be opened and the sample re- moved very carefuly either by hand or by the use of a small grab. If the hand method is used two men are re- quired to do the sampling properly. In a publication entitled "Sugar Cane Trash Investigation 1945" in Engineer- ing Experiment Station Bulletin No. 9, a grab 72" wide is recommended as possibly suitable for this operation.[1] The weight of the sample should be 100 to 125 pounds as shown in tables sub- mitted in the same publication. The weight deduction for trash is the only measurement of it recognized, so far, by the industry. I have no data showing to what extent this recognition is prac- ticed.

The percentage of trash is reflected in the sucrose extracted percent cane. This is shown in a publication appear- ing in the Sugar Bulletin, March 15, 1943 by Etheredge and Henry. In the data submitted average cane of 1.62% trash was milled and the results com- pared with those obtained when milling cane of 10.59% trash. In this compari- son we find a decrease in extraction of sucrose percent cane from 10.94 in aver- age cane to 9.79 in the trashy cane. These figures were made on the basis of true sucrose. This difference repre- sents a loss of about 10% in sucrose extracted percent cane. In this case if a 10% trash deduction were made it would only compensate for the sucrose loss percent cane at this point and leave no balance to meet other factory su- crose losses caused by milling trashy cane.

b. *The effect of trash on mill capa- city.* This is a measurement of trash that, so far, has not been recognized by the sugar cane industry of Louisiana. Mill settings are calculated on the amount of fiber to be passed between the rolls. If we assume that our mill

settings are calculated on the basis of 14% fiber in cane, or to mill 280 pounds fiber per ton cane, and we get a drastic increase in the percentage of fiber, we experience mill chokes and a correspondingly reduced grinding rate.

In an investigation of trash by Robert Mason at the Louisiana State University in 1946[4] he found testing 12 samples of cane the average trash content to be 7.26%. This trash contained 65.90% fiber. Applying this data to our mill setting problem we find a ton of cane yields 145 pounds of trash at 65.9% fiber or 95.60 pounds fiber in the trash alone. The trash free cane, after deduction for trash is made, yields 259.7 pounds fiber at 14% The fiber in the trash added to the fiber in the clean cane would equal 355.3 pounds fiber or an increase of 75.3 pounds per ton cane, which is 26.89% increase in fiber percent cane. On the basis of this circulation instead of milling cane of 14% fiber we are actually milling cane of 17.77% fiber.

If milling cane of 7.26% trash will cause the fiber in cane to rise 3.77%, what would happen when milling cane of 10 to 12% trash as is so often the case. To overcome this milling difficulty, we have to alter mill settings, and in doing this we sacrifice extraction.

c. *Increased milling losses caused by expanded bagasse production due to trash*: It seems to be the general opinion of sugar factory management that an increased loss of sucrose occurs in the bagasse when milling trash cane. The findings of research seem to agree with this opinion.

The argument presented by management is that trash enters the mill with practically no sucrose at all and when discharged with the bagasse, it has approximately 3.0% sucrose or the same sucrose content as the bagasse, of which it becomes a part. Research verified this opinion. Arceneaux and Davidson[1] found by experiment that the amount of sucrose loss in bagasse per ton of cane milled increased as higher percentages of trash were processed with the cane. Cane with no trash showed loss in bagasse of 10.0 pounds sucros per ton while cane with 7.5% trash ha corresponding loss of 13.3 pounds pe ton or an increased loss of 3.3 pound per ton cane. This loss was shown o dry trash but on green trash the los was considerably less, 1.9 pounds pe ton cane. This condition may be ex plained by the difference in the absorp tion ability of the two types of trash

d. *Introduction of impurities into th process when trashy cane is milled.* Th type of trash milled with the can greatly affect the quantity and qualit of impurities introduced into the pro cess. Green leaves, tops, and soil ar the chief offenders at this point of th operation. Soil or mud is delivered t the factory with the cane. In dr weather this type of trash represents small percent of the total, but durin a wet season it becomes a major prob lem. In the case of unstripped or ur burned cane the area, to which so adheres, is vastly increased, and there fore an increased amount is delivere with the cane. During the milling oper ation a larger portion of this soil washed off into the juice stream an sent to the boiling house. In some case there is so much soil in the juice a Bri determination is very difficult. I ar of the opinion that juice weights whic include varying quantities of soil wi give erroneous mill extraction figure and also affect boiling house control ca culations. My reasons for offering th suggestion are that soil is an insolubl solid, adding weight to the juice, but i no way recorded by the analytical in struments. It would not affect a pola ization determination by Hornes metho nor will it affect a Brix reading if a lowed to settle sufficiently for the Bri spindle to float above the mud. Fro these two determinations, Brix an Polarization, the percent sucrose in juic is calculated. If a given weight of juic containing 5% mud by weight in su pension is multiplied by the percentag of sucrose it is found to contain, th weight of sucrose will be 5% in erro Example: 2000 pounds juice with 11

sucrose equals 220 pounds sucrose, but if this juice contains 5% mud the actual juice weight would be 1900 pounds and this at 11% sucrose would be 209 pounds sucrose instead of 220 pounds or an error of 5%.

The presence of mud in juice will, if no correction is made for it, be reflected in the undetermined losses shown on the factory manufacturing report. Mud continues to be offensive throughout the process. It has an errosive effect on pumps and pipe lines and has a tendency to slow down the clarification of juices. It also places an increased load on the filter station and in the case of continuous filters causes greater volumes of dirty juice to be returned for reclarification. The increased weight of filter press cake removes an additional amount of sucrose from process as a definite loss.

Impurities introduced into process by leaves and tops differ from soil in that they are soluble solids, and to a great extent, non-sugars.

Etheredge and Henry[2] found that the presence of these impurities affected the polarization of the juices. On cane of 1.68% trash using direct polarization, the sucrose extraction was shown by them, in the test made, to be 93.23% and from cane of (10.59%) trash 93.07%, a difference of 0.16%. On the true sucrose (clerget) basis, sucrose extractions on the two types of cane showed a difference of 0.45% in favor of the clean cane.

As an additional proof of the increased amount of impurities extracted from trashy cane they call attention to the drop between purities of mixed and residual juices. In the clean cane a drop of 3.95 points was noted while in the trashy cane they find a drop of 6.15 points.

Arceneaux and Davidson[1], in their investigations, report considerable drops in the purities of mixed juice as the amount of trash in the cane increased, dry trash showing a drop of 1.68 where 7.5% trash was milled or 0.217 points for each 1% of trash. The green trash had a more pronounced effect in that the purity drop was 5.43 or 0.302 points for each 1% trash. They also show that the increased amount of impurities in the juice is indicated by an increase in the ash content. From their data we find an increase of 8.7 pounds ash per ton cane when 7.5% dry trash was used and 38.9 pounds per ton cane with 18% green trash.

The extracted impurities in the form of soluble solids pass through the entire manufacturing process. They slow down clarification and in conjunction with the mud demand a reduced grinding rate. This is true because of the increased time required at both clarification and filtering stations. In some cases attempting to maintain a set milling rate, some muds and unsettled juices are thrown to the ditch by the operators. This caused a definite loss and appears as undetermined. These impurities increase the viscosity of the syrups and molasses. This increased viscosity frequently is sufficient to retard the crystallization of sucrose and is reflected in higher sucrose in final molasses losses.

In the literature and in practice I find nothing to recommend the milling of trash with cane. For profitable results the trash must be kept out of the mill. The Louisiana sugar industry has solved difficult problems before and I am sure this one will be overcome.

Presented at the Annual Meeting, Houma, La., Feb. 12, 1948.

[1] Arceneaux and Davidson, 1944. Some Effects of Trash in Cane on Milling Results. Sugar Bulletin, June 15, 1944.
[2] Etheredge and Henry, 1943. A comparative milling test of average and trashy sugar cane. Sugar Bulletin, March 15, 1943.
[3] Keller, Walton and Fertitta, 1945. Sugar Cane Trash Investigations, Engineering Experiment Station Bulletin No. 9, 1945.
[4] Mason, Robert F., Utilization of Cane Trash, 1946-47. A thesis submitted to the graduate faculty of the Louisinaa State University.

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THE MARKETS

(June 28th, 1948)

A month has passed since we last reported on the sugar markets and it is good to be able to state that the picture has shown considerable improvement. The reduction in consumption estimates to 7,000,000 that we reported in our June 1st issue brought about some improvement, but the market really did not begin to rally until the distributors began to replenish their stocks for the summer season, and the strikes at the big Eastern refineries were settled. These latter two developments brought about the heaviest buying wave that the market has experienced since decontrol and started an upward movement in prices that is continuing at this writing.

Quotations in the No. 5 future contract closed today 26 to 35 points higher than the close on May 28th. July is quoted at 5.18, which is up 35 points, September is 5.15, up 27 points, and December is 5.11, up 26 points since May 28th. March 1949 is quoted at 4.84, which is 27 points up, and May 1949 is 4.85, up 26 points for the month. Remember to add the tariff of 50 cents to these future market quotations to obtain the comparable delivered price of actual sugars.

The sales of actual sugars listed during the period since May 28th have been as follows: 3,000 tons of Philippines, on June 1st, for June-July shipment, at 5.30 to Sucrest; 35,000 bags of Puerto Ricos, on June 2nd, for June shipment at 5.28 to a New Orleans refiner; 4,500 tons of Cubas, on June 2nd, for the second half of June shipment, at 5.28 to Godchaux; 4,500 tons of Cubas, on June 3rd, for the first half of June shipment, at 5.28 to Supreme; 30,000 bags of Puerto Ricos, on June 4th, for prompt shipment at 5.30 to Imperial; 5,000 tons of Cubas, on June 7th, for July shipment, at 5.30 to American; 2,000 tons of Philippines, on June 8th, for June-July shipment, at 5.30 to Revere; 50,000 bags of Puerto Ricos, on June 10th, for the second half of July shipment, at 5.30 to Refined Syrups; 15,000 bags of Cubas, on June 11th, for late June shipment, at 5.20 to Henderson; a sale of prompt Puerto Ricos on June 11th, at 5.20 to American; 4,500 tons of Philippines, on June 15th, for the first half of July delivery, at 5.30 to Revere; 9,000 tons of Cubas, on June 15, for July shipment, at 5.25 to a New Orleans refiner; 85,000 bags of Puerto Ricos, on June 16th, at 5.30 to American; 3,600 tons of Philippines, on June 18th, for July-August shipment, at 5.40 to American; 17,000 bags of Puerto Ricos, on June 22nd, for prompt shipment, at 5.40 to Sucrest; 1,500 tons of Philippines, on June 23rd, for July-August shipment, at 5.45 to an operator; 35,000 bags of Puerto Ricos, for July shipment, and 50,000 bags for the second half of August shipment, both on June 23rd and both at 5.45 to New York refiners; 15,000 bags of Puerto Ricos, on June 23rd, for prompt shipment, at 5.45 to Sucrest; and 3,000 tons of Philippines, on June 23rd, for June-July-August shipment, at 5.50 to an operator. These reported sales probably do not include all of the sugars that were booked during the period, but they show the trend of the market.

It will be noted that the market was at its lowest point during the middle of June and then began a steady advance. The strike at the big Baltimore refinery of the American Sugar Refining Company was settled on June 15th.

An improving demand for refined sugar has continued throughout the month and the ticker reported on June 25th that the trade was expecting a sharp rise in consumption because of the warm weather and the indicated firmness of the raw sugar market. Today the American Sugar Refining Company announced an advance at the close of the market on June 29th to 7.75, except in Southern and competitive territory where the price will be 7.65.

The local refiners have advanced their lists from 7.40 to 7.65, effective today.

IN WASHINGTON

(Continued from page 323)

the distribution had been running considerably under the 1947 figures. As we are entering the summer months of high consumption, prospects can be considered encouraging, despite the fact that the quota cut came very late from the standpoint of its effect upon the market. The price of raw sugar, quoted by the New York Coffee and Sugar Exchange totday (June 28th), is 5.50 cents per pound, duty paid.

New Secretary of Agriculture

Charles Franklin Brannan of Colorado has entered upon his duties as Secretary of Agriculture. He was formerly Assistant Secretary of Agriculture under Clinton P. Anderson and is expected to carry out the policies and programs of his predecessor. Secretary Brannan is a "career" man in the Department of Agriculture, having been connected since 1935 with the Farm Security Administration in different positions until he became Assistant Secretary in 1944. The administration of the Sugar Act is expected to be continued without significant change under Secretary Brannan and Director Myers of the Sugar Branch, both recently appointed by promotion within the Department.

—o—

EMPLOYMENT

(Continued from Page 324)

formed as to the problems affecting the supply of farm labor cannot be overemphasized in our opinion."

Crop Conditions

From the current reports of the Bureau of Agricultural Economics we are briefly summarizing the crop conditions in several areas of the country. Commercial truck crops generally are making good progress. In the Eastern States from Maryland northward, and in the North Central States, weather was too cool and rain too frequent for optimum growth. New England, New York, Pennsylvania and New Jersey report similar conditions. The South Central States reported generally favorable conditions. Weather has been unsettled in the Pacific Northwest but conditions in California were more favorable except in those areas where lack of rainfall and of water for irrigation had adversely affected crop production.

(Continued on next page.)

MR. BARKER RECEIVES THE LAUREL WREATH

"You all did see that on the Lupercal I thrice presented him a kingly crown, which he did thrice refuse. Was this ambition?"—MARK ANTONY.

At the regular monthly meeting of the Executive Committee of the American Sugar Cane League held on June 30th, 1948, Mr. Frank L. Barker, battle scarred veteran of a hundred conflicts in behalf of the sugar industry of Louisiana, was tendered repetitiously and at last accepted the highest award within the gift of the organization, a certificate of Life Membership.

Mr. Barker is one of the original 90 men who signed the League's charter in 1922 and from that time on—twenty six years—he has been a pillar of cloud by day and a pillar of fire by night in his earnest, sincere and unselfish efforts to direct the course of the League along sound, practical and productive channels. He bears the scars of conflicts but none of them are on his back.

No man in the organization other than Mr. Barker can point to the early crises through which the American Sugar Cane League struggled and floundered with so full an understanding of how and why they occurred and the manner and method—and difficulty—of their solution. Nor could any man have been more reticent about the vital part he played in them or more genuinely happy when they were overcome nor more generous in awarding to others credit that was all his own.

There is evidence of significant damage to the winter wheat and small grain crops in the Plains and Southwestern States, with a probable decrease in the later demands for harvest labor.

Interstate Recruitment of Agricultural Workers

Thus far it has been possible to meet employer orders for some 31,000 agricultural workers through recruitment and movement of labor from supply areas in the south, southwest, and west to demand areas in northern states.

Movement of Migratory Labor

A substantial number of migrant agricultural workers have passed through our information stations on the Eastern Seaboard. At present there are four such stations assisting in the direction of this movement of labor, these being located at Yulee, Florida, at Wilmington, North Carolina, Little Creek, Virginia, and at Pokomoke, Maryland. While not all migrants use the facilities of these stations, the volume of movement reported indicates that it is of normal proportions.

Our Florida agency advises us that: "Agricultural activities are rapidly tapering off with a considerable volume of labor beginning to migrate up the east coast, going primarily to the Carolinas and to Virginia. . . . The local offices estimate that there are approximately 15,000 out-of-area workers in the state of which 4,000 are not working. This would indicate that approximately 3,000 have left the state since the last report." Stations in the Midwest and far West will be in operation shortly.

Winter wheat harvest got under way in the Wichita Falls, Texas area on May 24. The Texas farm placement combine office at Amarilla had an ample supply of combines and crews in the area to meet all calls from growers. Indicators from farm placement representatives in Oklahoma and Kansas have reported some 200 additional outfits moving to arrive in Texas on May 29.

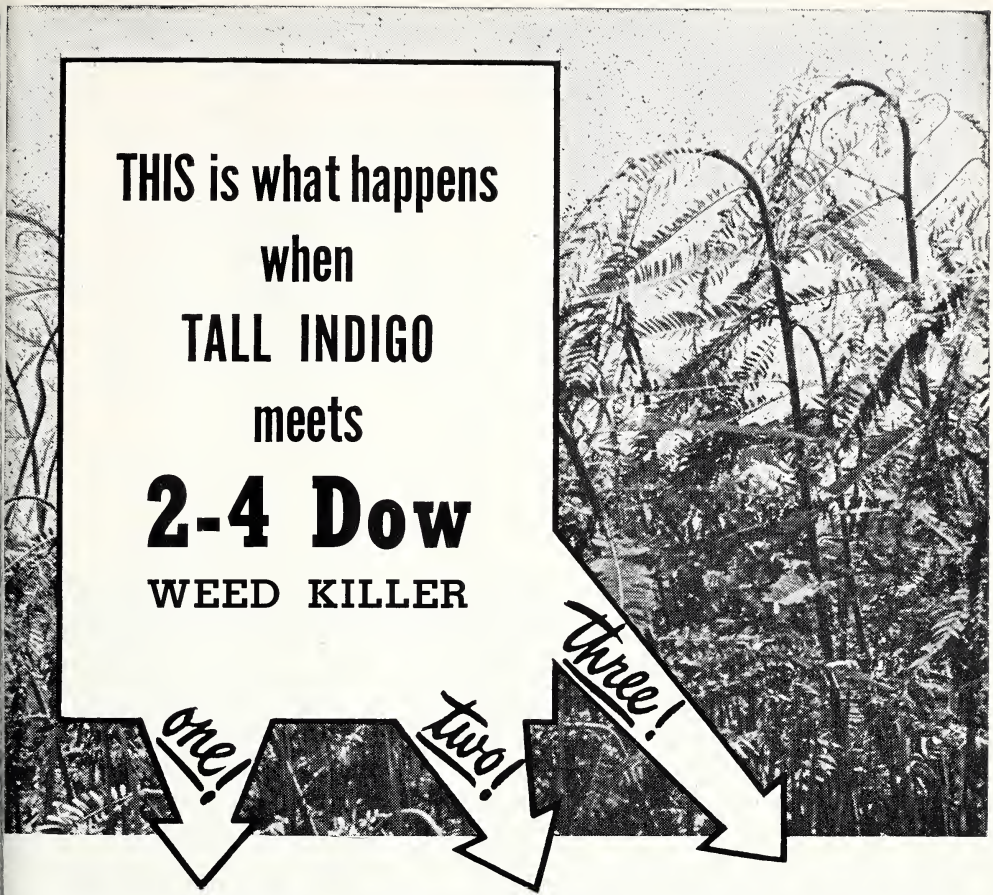
Foreign Agricultural Labor

The contracting and movement of Mexican agricultural labor finally got under way by mid-May after protracted negotiations with the Mexican Government. Workers are being contracted at Tampico and Aguascalientes. Experience to date indicates that the movement of such labor will be slow primarily because of the necessity for each employer to negotiate individually with the Mexican authorities for the contracting and feeding of the workers and for moving them with extremely limited transportation facilities available. In order to simplify and expedite the movement of Mexican labor, it appears desirable to centralize in one agency the responsibility for all activities relative to contracting and transporting workers, at least those activities to be performed in Mexico.

Employers' requests for foreign agricultural workers for approximately 20,000 have been received by the National Office of the U.S.E.S. Of the workers to be recruited in Mexico, most of them are for employment in Midwestern States, the Rocky Mountain Area, and the Pacific Coast. Some Jamaican labor as well as a small number of Bahamian workers is to be recruited for New York. A few Canadian workers are being brought into Maine. In addition to the foreign workers to be recruited some 9,500 foreign workers, already in this country, have been recontracted. The demand for foreign workers has been greatest in Michigan, Illinois, Iowa, Minnesota, New Mexico, Idaho and California.

Agricultural Placements

Reported agricultural placements for April, totaled 124,547, as compared with 52,298 for March of the same year. Of the April total, 99.875 placements were seasonal and 25,672 were for regular farm employment. The Employment Service placed 238,988 farm workers in the period January-April this year.



The effect af 2-4 Dow Weed Killer can be noticed an Tall Indigo Weed in abaut two haurs after spraying. At first there is a slight wilting af the foliage, fallawed by pronaunced wilting and then slumping af the stems.

Usually in 4 to 6 days after treatment, the stems and leaves turn brilliant yellaw. The nodes swell and became brittle. Finally leaves drap off and stems gradually break apart at the nodes.

In 3 to 4 weeks after spraying, most of the stems have separated and dried aut. Nat a weed in sight in the sprayed fields! Cane—unharmed—graws with new vigor.

Results count! Successful cane growers have learned that chemical weed control is the surest way to a bigger, better crop. In many cases, outstanding yields have proved the effectiveness of the treatment.

Now is the time to plan *your* next season's weed control program. Get the facts about 2-4 Dow Killer, Formula 40, for very low volume spraying by plane or by ground equipment. Ask also about 2-4 Dow Weed Killer Powder (Sodium Salt of 2,4-D), which is available for growers who prefer a sodium salt. See your local experiment station or your dealer—or write to Dow.

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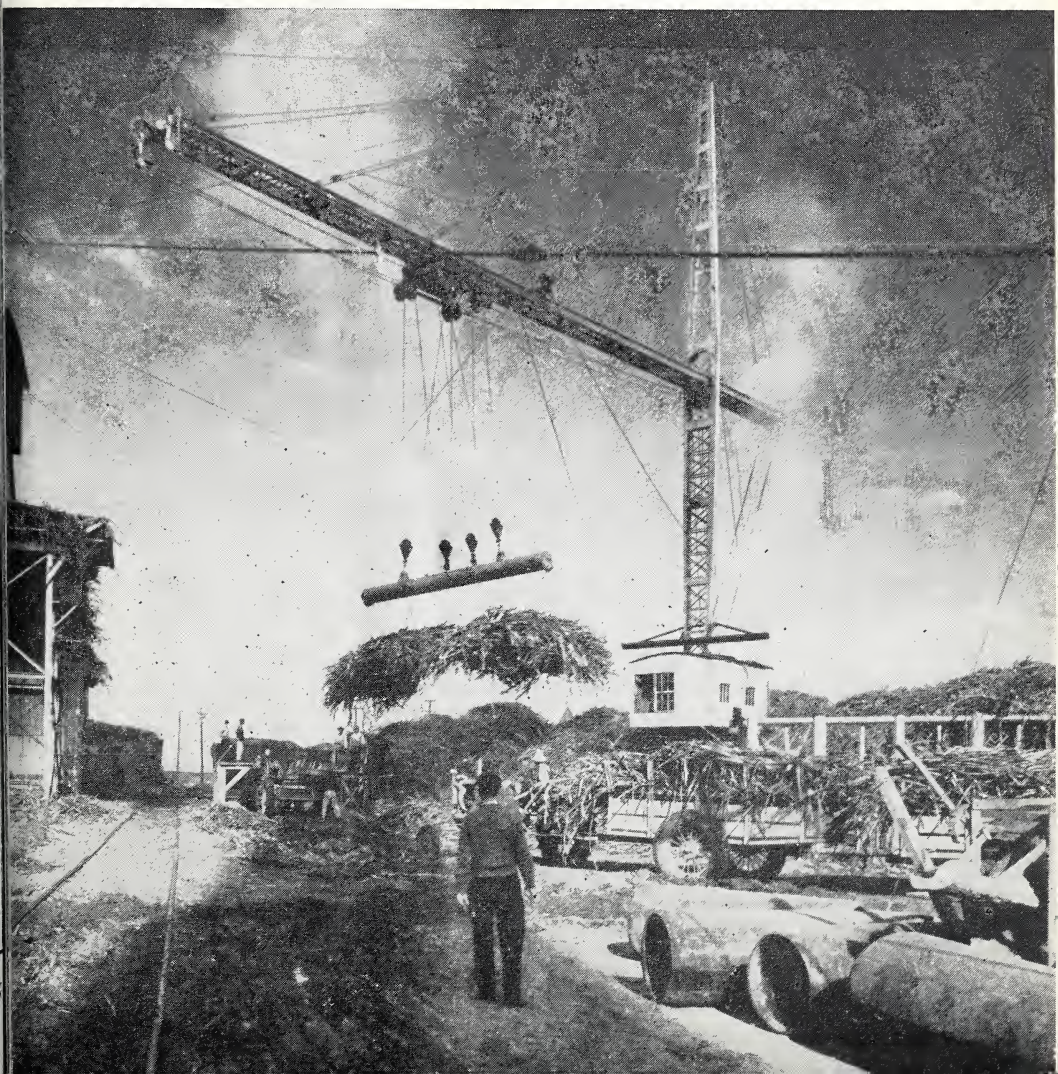
THE SUGAR BULLETIN

ed as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., JULY 15, 1948 No. 20



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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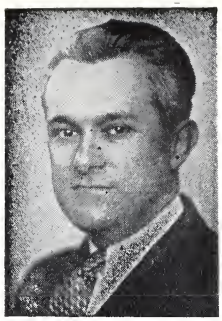
IN WASHINGTON WITH C. J. BOURG



Approximately 902,000 short tons of ertilizer nitrogen in all forms will be vailable to American farmers for use uring the year July 1948 through June 949. This amounts to a 10 percent in- ease over the supply of 817,000 tons or the past fertilizer year, which in- ease the Department of Agriculture xplains is due to:

1. Estimated increase of 26,500 tons in domestic production and exports.
2. Action by Congress to require the Army to deliver an estimated 28,000 tons (nitrogen content) of anhydrous ammonia made at its ordnance plants, to be converted to fertilizer for domestic use. Last year, all Army production went to occupied areas overseas.
3. Action by Congress directing the Army to supply half of the 1948-49 commercial export allocation. This will mean 30,500 tons of nitrogen from Army sources.

The Department of Commerce is neeting with nitrogen producers this eek to plan distribution of the 1948-49 ommercial export allocation of nitrogen ertilizers from the U. S., estimated to e 61,000 short tons of nitrogen fertizer.

We repeat our annual advice and arning that sugarcane growers should rder early from their fertilizer distribtors and agree to accept early delivries, even before the beginning of 1949. he U. S. Government becomes less ble to assist growers in obtaining ferlizer, as there is no control over doiestic distribution by commercial prouucers. Early in 1948, the American ugar Cane League was able to stimuite some favorable developments in order to help cane growers on fertilizer. Growers should not rely entirely upon the efforts of the League, but should cooperate in every way (early orders and deliveries) to restore free enterprise and orderly distribution through normal channels.

Price

Current trends in the raw sugar market are favorable and can definitely be traced to the realistic estimate of consumption at 7,000,000 tons. From a declining market under the first estimate of 7,800,000 tons, when the price of raw sugar reached 5¢, raw sugar is now being quoted at 5.65¢. The quoted wholesale price of refined sugar is 7.75¢ per lb. at New York, which is the price basis to be used in connection with the cost of living factor to be considered by the Secretary of Agriculture under Section 201 of the Sugar Act.

The average consumers' price index is 157.81 and the consumers' price index for May 1948 is 170.5. During the basic period January 1 to October 31, 1947, the average wholesale price of sugar was 8.267¢ per lb. If the cost of living factor were applied fully to the price of refined sugar, it would be computed at 8.93¢ per lb. or 1.18¢ per lb. more than the actual price of 7.75¢ per lb. As explained by the Secretary of Agriculture, when announcing the 7,000,000 ton consumption estimate (see Page 323 of July 1 *Sugar Bulletin*) there are other factors which he is required to take into consideration under the Sugar Act.

A revealing comparison of changes in retail prices of goods, by percent change from April 1947 to April 1948, shows

(Continued on Page 348)

REPORT ON THREE ATTEMPTS TO CREATE RAIN BY THE DRY ICE METHOD IN JUNE 1948

by Charles A. Farwell

All of these flights were made on a charter basis, using Lockheed Lodestar NC 74633 with pilot R. J. Spremich.

1. On June 23, 1948 we demonstrated the mistake in attempting to create rain by the dry ice method before getting the upper air soundings which are taken by the Weather Bureau at 9:30 each morning. The previous sounding made at midnight on the 22nd gave a freezing level of 14,300 feet, with a relative humidity of 60%. On the morning of the 23rd, cumulus and cumulonimbus clouds were developing, so the plane was instructed to take off at 9 o'clock. At about 10 o'clock the writer got the 9:30 upper air sounding from the Weather Bureau which showed that although the freezing level was about the same as it was the night before, the relative humidity had dropped to 35%. It had been agreed that the rainmaking attempt for this day would be tried in the area around Napoleonville. However, when the plane arrived, the cloud formation had begun to disintegrate. The plane therefore landed at Houma and waited an hour, but on this day, instead of building up, the clouds almost completely disintegrated and therefore the plane returned to New Orleans without having obtained any chance of making a dry ice drop.

2. On June 28, 1948 the freezing level was 14,100 and on the morning observation, the relative humidity was only 34%. An hour later, however, they took a special observation and found that the relative humidity had increased to 50%. The plane therefore took to the air with instructions to fly the area bounded by Houma, Napoleonville, Donaldsonville and Convent. Between Morgan City and Thibodaux, the plane encountered five cumulus clouds in practically one formation. The plane then climbed to 20,000 feet and dropped 150# of dry ice over the center cloud in this formation. Three of the five clouds began to rain, with the formation continuing to move in a nort easterly direction. As a result of thi seeding, Schriever got .14/100ths of a inch of rain, the back portion of Littl Texas got 25/100ths of an inch of rain and the most north easterly cloud be gan raining after it had crossed Bayo Lafourche and gave a very good showe over the St. James, Lagan, Conven area. Eventually, all five of these cloud did produce some rainfall, indicatin that in such a formation, a drop on th center of the formation will produc something in the nature of a chain re action on the other clouds. This phe nomena was first observed in an experi ment over the Reserve area last yea in a two cloud formation.

3. On June 30, 1948 with a freezin level of 13,300 and a relative humidit of 60%, the plane took off with in structions to cover the Thibodaux Donaldsonville, Convent area. Th proper clouds began to develop south west of Napoleonville and the cloud wa seeded at 17,500 feet with 200# o dry ice. After 27 minutes, the clou began to produce rain from its lowe edge, most of which rain fell in th neighborhood of Thibodaux, Louisiana In this experiment it was noted tha after seeding, the cloud began to trave from north to south instead of fron southwest to northeast as it had bee traveling before seeding. No explan ation can be given for this change i direction.

Summary

After two successful experiments las year producing rain with dry ice. an after two out of three successful ex periments this year, it is the writer' opinion that if proper coordination be tween the Weather Bureau and th rainmakers is maintained, if cloud an humidity conditions are right, rainfal varying from 14/100ths of an inch t

(Continued on Page 350)

CROP NEWS BY PARISHES

from

COUNTY AGENTS

The weather has not been very kind o the Louisiana cane crop for more han a month and the industry has be- ome apprehensive about the continuing ack of rain. So many different opin- ons about the condition of the crop ave been going the rounds that we de- ided to ask our friends, the county gents, to answer some specific ques- ons for this issue of *The Sugar Bulle- in* so that our readers might get a clear icture of how the crop looks to these xperts in their respective districts.

We asked the agents whether the ondition of the crop was still good, nly fair, or poor, about the amount of ain that had been received, and hether a good growing season from ow on could repair any damage that ay have been done by the extended ry spell of weather. The response to ur questionnaire has been very gratify- g and we pass the following informa- on on to you.

St. James Parish. Joseph Lamen- ola dated his report July 10th and ated that the condition of the cane rop in his district on that date was ill good although only widely scattered owers had fallen there for some time. Ir. Lamendola believes that a good rowing season from here on out will epair any damage that has been done. Ie says that the prospective cane ton- age in his district now looks like about 8 tons to the acre.

Ascension Parish. The condition of he crop in Ascension Parish is only air according to a report from E. S. andry dated July 9th. Only widely attered showers have been experienced n his district and some places have had o rain since the 6th of May. Mr. andry believes that the crop has been ermanently injured and that the pros- ective tonnage is now between 16 and 7 tons per acre.

Avoyelles Parish. Reporting from voyelles Parish on July 9th, Kermit J. Ducote advised us that the condition of the cane crop was still good despite the fact that only widely scattered showers had been experienced in his district. No rain has fallen on some places since April 25th. Mr. Ducote says that some of his farmers are irri- gating. He believes that a good grow- ing season from now on will repair much of the damage that has been done.

St. Mary Parish. In a report also dated July 9th, P. J. deGravelles ad- vises us that the cane crop in St. Mary Parish is only fair. He states, however, that certain places have been favored with enough rain and that a good grow- ing season throughout the rest of the summer will probably repair any dam- age that has been done. The crop now looks about 18 tons to the acre.

Terrebonne Parish. Richard Son- nier dated his report July 9th. He says that the condition of the cane crop in Terrebonne Parish is still good and that certain places have had sufficient rain. His field reports indicate that the crop is probably above normal and that a good growing season from now on will result in good yields. The prospective tonnage in Terrebonne Parish looked like from 18 to 20 tons to the acre on July 9th.

Pointe Coupee Parish. The condi- tion of the crop in Pointe Coupee Par- ish remains good, according to a report from A. B. Curet dated July 10th with enough rain to keep the crop going having been received in certain sections. Some places, however, have had no rain for the past 30 days. Mr. Curet believes that a good growing season throughout the balance of the summer will repair any damage that may have been done and says that the crop now looks like about 19 tons to the acre in his district.

Iberia Parish. W. E. Williams has favored us with a special report on the conditions in Iberia Parish and we

(Continued on Page 349)

WAGE RATE AND PRICE HEARING IN THIBODAUX ON JULY 22nd.

DEPARTMENT OF AGRICULTURE
Production and Marketing
Administration
(7 CFR, Part 802)

Fair and Reasonable Wage Rates and Prices for 1948 Crop of Sugarcane

Notice of Hearing and Designation of Presiding Officers

Pursuant to the authority contained in subsections (c) (1) and (c) (2) of section 301 of the Sugar Act of 1948, notice is hereby given that a public hearing will be held at Thibodaux, Louisiana, in the Agriculture Auditorium, on July 22, 1948, at 9:30 a.m.

The purpose of such hearing is to receive evidence likely to be of assistance to the Secretary of Agriculture in determining (1) pursuant to the provisions of section 301 (c) (1) of said Act, fair and reasonable wage rates for persons employed in the harvesting of the 1948 crop of sugarcane, and in the planting and cultivation of sugarcane during the calendar year 1949, or such other periods as may be deemed feasible as explained below, on farms with respect to which applications for payments under said Act are made, and (2) pursuant to the provisions of section 301 (c) (2) of said Act, fair and reasonable prices for the 1948 crop of sugarcane to be paid, under either purchase or toll agreements, by processors who as producers apply for payments under the said Act. In the interest of obtaining the best information possible, all interested persons are requested to appear and express their views and present appropriate data in regard to the foregoing matters.

The Secretary is considering a change in the present practice of issuing one determination covering harvesting rates for a specified crop and another determination covering production and cultivation wage rates for the calendar year. Consideration is being given to the issuance of a single determination covering all wage rates applicable to production, cultivation, and harvesting such determination to be effective for a specified period of 12 months other than the calendar year. Interested persons will be afforded an opportunity to express their views in regard to this change.

The hearing, after being called to order at the time and place mentioned herein, may be continued from day to day within the discretion of the presiding officers and may be adjourned to a later day or to a different place without notice other than the announcement thereof at the hearing by the presiding officers.

George A. Dice, Ward S. Stevenson and Thomas H. Allen are hereby designated as presiding officers to conduct either jointly or severally, the foregoing hearing.

Issued this 25th day of June 1948.

CHARLES F. BRANNAN
Secretary of Agriculture

FLORIDA WAGE RATES

TITLE 7—AGRICULTURE
Chapter VIII
Production and Marketing
Administration
(Sugar Branch)
Part 802—Sugar Determinations

Determination of Fair and Reasonable Sugarcane Wage Rates in Florida During the Period July 1, 1948 to June 30, 1949

Pursuant to the provisions of Section 301(c)(1) of the Sugar Act of 1948, after investigations, and due consideration of the evidence obtained at the public hearing held in Clewiston, Florida, on May 15, 1948, the following determination is hereby issued:

Section 802.24dd Fair and Reasonable Wage Rates for Persons Employed in the Production, Cultivation, and harvesting of Sugarcane in Florida during the period July 1, 1948 to June 30, 1949. The requirements of Section 301 (c)(1) of the Sugar Act of 1948 sha

e deemed to have been met with respect to the production, cultivation, and arvesting of sugarcane in Florida during the period from July 1, 1948 to une 30, 1949, if the producer complies ith the following:

(a) all persons employed on the arm in the production, cultivation, or arvesting of sugarcane shall have been aid in full for all such work and shall ave been paid in cash therefor at rates s agreed upon between the producer nd the laborer but, after the effective ate of this determination, not less than he following:

(1) For work performed on a time asis

	Cents per hour
(i) All work except as otherwise specified:	
Adult males	45.0
Adult females	38.0
(ii) Tractor drivers and operators and mechanical harvesting or loading equipment	55.0
iii) Workers, between 14 and 16 years of age (maximum employment per day for such workers, without deduction from Sugar Act payments to the producer, is 8 hours)	38.0

(2) For work performed on a piece ork basis.

The piece work rate for any operation hall be as agreed upon between the roducer and the laborer: Provided, owever, That the earnings of each aborer employed on a piece work basis uring each pay period (such period ot to be in excess of two weeks) shall verage for the time involved not less han the applicable hourly rate prescribed in paragraph (a) of this section.

b) Perquisites.

In addition to the foregoing, the producer shall furnish to the laborer without charge the customary perquisites, uch as a habitable house, medical attention, a suitable garden plot with facilities for its cultivation and pasturage or livestock.

(c) Subterfuge.

The producer shall not reduce the wage rates to laborers below those determined herein through any subterfuge or device whatsoever.

Statement of Bases and Considerations

(a) General.

The foregoing determination provides fair and reasonable wage rates to be paid persons employed in the production, cultivation, and harvesting of sugarcane in Florida during the period from July 1, 1948 to June 30, 1949. Compliance with the determination is required as one of the conditions for payment to producers of sugarcane in Florida under the Sugar Act of 1948. In this Statement, the foregoing determination, as well as determinations for prior years, will be referred to as "wage determination" identified by the period for which effective.

(b) Requirements of the Sugar Act and Standards Employed.

In determining fair and reasonable wage rates, the Sugar Act requires that a public hearing be held, that investigations be made, and that consideration be given (1) to the standards formerly established by the Secretary under the Agricultural Adjustment Act, as amended, and (2) to the differences in conditions among various sugar producing areas.

A public hearing was held in Clewiston, Florida, on May 15, 1948, at which time interested persons presented testimony with respect to fair and reasonable wage rates for sugarcane work during the period July 1, 1948, to June 30, 1949. In addition, investigations have been made of the conditions affecting sugarcane wage rates in Florida. In this determination, as in prior determinations, consideration has been given to testimony presented at the hearing and to the information resulting from investigations. The primary factors on which determinations have been based are: (1) prices of sugar and by-products; (2) income from sugarcane; (3) cost of production; (4) cost of living; and (5) relationship of labor costs to total cost. Other economic influences were also considered.

(c) Background.

Wage determinations for sugarcane work in Florida have been issued each year since 1937. The first covered work in the harvesting of the 1937 crop while subsequent determinations covered all work applicable to the production, cultivation, and harvesting. Up until the 1945-46 crop harvesting wage determination, two wage determinations were issued each year, one covering production and cultivation for a calendar year, the other covering the harvesting of a crop. In the 1945-46 crop harvesting wage determination, production and cultivation wage rates also were included for the first six months of the calendar year 1946. Beginning July 1, 1946, a single determination has been issued each year for a 12-month period covering production, cultivation, and harvesting wages. Coincident with the issuance of a single determination, the rate differentials theretofore existing between harvest and non-harvest operations were eliminated and the rates provided were applicable to all work on sugarcane.

The early determinations specified time rates for adult male and female workers with alternative tonnage rates for harvesting. Subsequently, rate coverage was extended to include semi-skilled and skilled workers and workers between 14 and 16 years of age. Beginning with the 1946-47 wage determination, the practice of establishing specific harvesting piece work rates was discontinued. This change was made because the use of tonnage rates was discontinued by producers in favor of row rates since the latter provided greater incentive for increased output. The many variable factors involved made it impracticable to establish "per row" rates in the determination. However, provision was made for piece work rates by specifying that such rates for all classes of work were to be as agreed upon between producers and workers but subject to a minimum hourly guarantee of the workers' earnings. The 1947-48 wage determination required that the individual earnings of not less than 90 percent of all workers employed on a piece work rate bas average for the time involved not le than the applicable hourly rates state in such determination. This requir ment was made so that the majority workers on piece work would have floor under earnings of an estimated 1 percent or less of workers whose i voluntary or voluntary output was suc that their earnings were less than th stated hourly rates.

Generally, the level of rates estab lished in the early determinations r flected the wage-income relationshi prior to 1938. In the wage determina tions covering the 1944-45 crop, an a justment was made in the historic wag income relationship after reappraisal the factors influencing wage rates. Wag rates have been adjusted periodically t recognize economic changes. As a resu of changes in the economic factors a fecting wage rates, together with th adjustment in the wage-income relatio ship, the average basic time rates hav been increased from 17.9 cents per hou in 1938 to 45.8 cents per hour in 194 48, an increase of 155.9 percent.

(d) 1948-49 Wage Determination.

The 1948-49 wage determination changed in two respects from the 194 48 wage determination: (1) the specifi provision relating to the furnishing perquisites, which was inadvertentl omitted from the 1947-48 wage dete mination, is reinstated and (2) the pr vision relating to a minimum hourl guarantee for workers employed on piece work basis is extended to includ all such workers.

As previously noted, the 1947-4 wage determination required that th individual earnings of not less than 9 percent of all workers employed on piece work basis average not less tha the applicable hourly rates specified i the determination. Producers hav found this provision to be administra tively impracticable and have guaran teed the hourly rate as a minimum t 100 percent of the workers employed o a piece work basis. Although the com plete elimination of a minimum hourl guarantee of earnings was recommende at the public hearing, the absence c

uch a provision would exclude the vast majority of sugarcane workers from pecific wage coverage. Also important s the influence of the basic time rates on piece work rates. Investigation reveals that in many instances producers and workers use the basic time rates as guides in determining piece work rates. Accordingly, the 1948-49 wage determination provides that piece work rates shall be as agreed upon between the producer and the worker provided the earnings of each worker during each pay period average for the time involved not less than the applicable hourly rate prescribed in the wage determination.

(e) General Discussion of Factors.

Since the base period 1944-45, sugarcane production costs and workers' costs of living have increased substantially. Sugar and molasses prices and producer income have also increased during this period, although sugar prices have declined since the date of issuance of the 1947-48 wage determination.

Available data indicate that labor productivity has increased during recent years as a result of mechanization and the increasing practice of piece work employment in both harvest and nonharvest operations. At the same time, the use of incentive piece work rates has strongly affected the earnings of sugarcane workers. During the past crop in this area, the earnings of the majority of workers on a piece work basis have ranged from about 60 cents to $1.10 per hour.

All of the foregoing factors have been taken into account in establishing the basic time rates in this determination, continuing in general the economic relationships which existed during the base period.

Accordingly, I hereby find and conclude that the foregoing wage determination will effectuate the wage provisions of the Sugar Act of 1948.

Issued this first day of July 1948.

CHARLES F. BRANNAN
Secretary of Agriculture

HARVESTING LABOR FOR THE 1948 SUGARCANE CROP

The Louisiana Employment Service, with offices at 329 Florida Street, Baton Rouge, Louisiana, and with the following ten district offices in the sugar area, is prepared to work with the Louisiana sugarcane farmers and processors on labor requirements and labor procurement problems. Visit the office in your area with respect to your labor requirements:

Abbeville
Udor Broussard, 102 St. Charles St.
Alexandria
Lawrence W. Wicks, 601 Washington St.
Baton Rouge
A. H. Gipson, 742 Laurel St.
Franklin
Frederick J. Menuet Courthouse Building
Houma
Edward R. Rhoades, 501 Barrow St.
Lafayette
Marshall D. Lemoine, 215 Jefferson St.
Marksville
James I. Nichols, 206 East Mark St.
New Orleans
Germinal Messina, 127 Elk Place
New Iberia
Phillip Cooley, 10 Bridge St.
Opelousas
Derta Ardoin, 138 E. Bellevue St.

League officials conferred with representatives of the Louisiana Employment Service and a representative of the Island of Barbados. It is estimated that the cost of securing Barbadians for harvesting operations will be approximately $69.00 per laborer, to be borne by the employer. Labor requisitions must be made by September 1, 1948. Copies of the contract will be available in the field offices of the Louisiana Employment Service for your consideration.

In any event, contact the Field Office of the Louisiana Employment Service nearest you for your labor needs.

WEST BATON ROUGE FIELD DAY -- JULY 20th

The Annual Sugarcane Field Day of West Baton Rouge Parish will be held at the Courthouse in Port Allen, La., on Tuesday, July 20th, beginning at 1:30 P.M. The Field Day is sponsored by the West Baton Rouge Farm Bureau and A. E. Camus, county agent of the Parish, has advised us that the planned program on a tour of inspection will be as follows:

First Stop—Monte Vista Farms at Oaks Pasture to observe pasture and cattle management demonstration. Horace Wilkinson, III will be the speaker.

Second Stop—Poplar Grove Plantation to observe ditchbank plow work, Atlacide spray, fallow plowing, a ditching machine, cane after pasturing Johnson Grass for 3 years, and a sheep for controlling Johnson Grass demonstration. Horace Wilkinson III will be the speaker.

Third Stop—Westover Plantation to see fallow plowing, planted oats, and cane growing on lands following these practices. Paul Pavy will be the speaker.

Fourth Stop—Orange Grove Plantation to see the lack of Johnson Grass and the effect of Atlacide. B. C. Devall will be the speaker.

Fifth Stop—J. R. Morris's farm to observe corn planted on 44 inch rows and fertilized with Andydrous Ammonia, pastures, and trench silos. J. R. Morris will be the speaker.

Sixth Stop—Smithfield Plantation to see pre-emergence spray of 2-4-D control of Johnson Grass and other grasses, solid beans (2 bushels to the acre), and a demonstration of a subsoil plow. R. H. Barrow will be the speaker.

Others to address the meeting will be R. T. Gibbens, who will talk on "Varieties Best Adapted to West Baton Rouge Parish; Eugene McCrory and E. C. Simon, who will talk about "Promising New Varieties", and Malcolm Dougherty, who will give a talk about the Farm Bureau.

DR. BRANDES HONORED

Following a Commencement Day ceremony on June 6, at which 2,179 Michigan State College students were graduated, The Alumni Award for Distinguished Service was presented to Dr Elmer Walker Brandes of the class of 1913. The Award was established in 1946 to provide recognition to alumni of Michigan State College for outstanding achievement, thus Dr. Brandes becomes one of the first to be so honored.

Dr. Brandes is known to the sugar fraternity in Louisiana for his research on mosaic of sugarcane and the breeding of resistant varieties which were the basis for restoration of the industry after its near collapse in the decade 1920-1930. Well known also are his numerous other scientific contributions toward improvement of the sugar industries of America carried out as administrative head of the Division of Sugar Plant Investigations, U. S. Department of Agriculture.

Our readers however may not know that beginning just prior to the 2nd World War Dr. Brandes had the important added assignment of developing modern rubber plantations in 10 countries of tropical America as a national defense measure. This vast project was conducted in cooperation with foreign governmental and private agencies some of it in remote, primitive places. Although war conditions complicated the normal or expected difficulties in such pioneering enterprises progress has been outstanding in some areas and the earliest planted of the millions of trees already have reached the productive stage of tapping for latex. During the war large quantities of rubber from jungle trees in the same areas were produced for critical military needs.

For his part in designing and activating these vital sugar and rubber programs and for "advancing human welfare" the Alumni Association of Michigan State College selected Dr. Brandes as one of the first recipients of its testimonial Award.

MR. FARWELL REPORTS ON THE JOHNSON GRASS SITUATION

The following letter dated June 8th from F. Evans Farwell, Chairman of the Johnson Grass Control Committee, to Marcel J. Voorhies, General Manager of the American Sugar Cane League, should be very interesting to those cane farmers who own property along the railroad rights-of-way.

Mr. Farwell and his Committee are continuing their active campaign to rid the Louisiana cane fields of the Johnson Grass menace and the co-operation of the railroads is very necessary.

Dear Marcel:

Wish to give you a report on one phase of the Johnson grass situation:

The railroads serving this area have become very conscious of the Johnson grass problem and each railroad appointed a member of a special Johnson grass committee. These members met on June 5th, at which time they discussed their common problems. They plan to make studies with the idea of having a coordinating meeting at a later date.

The railroads are quite conscious of the problem that we face having Johnson grass go to seed on their rights-of-way. They, of course, are primarily interested in fire control along their rights-of-way, and under the present circumstances their equipment is set up to take care of the grass 11 feet on each side of the center of their track. This 22 foot swath is, of course, only a small part of their right-of-way. They are experimenting with various chemicals and other devices for controlling the Johnson grass, both in this 22 foot wide area and in their entire right-of-way. At the present time it would appear that the farmers along the rights-of-way are going to have to keep the Johnson grass from going to seed over the major portion of the right-of-way. The railroads will keep the grass cut from around their bridges.

For the time being, it would appear that the best method of approaching this problem would be for the farmers along the rights-of-way to apply to the local agents for a *mowing agreement.* The railroads will be glad to cooperate with the farmers and let them make hay from the rights-of-way, but in order for the railroads to protect themselves from liability, etc., it would be necessary in each case for a written *mowing agreement to be signed.*

Very truly yours,

F. EVANS FARWELL,

Chairman, Johnson Grass Control Committee

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We are now contracting our 1949 supply of "Life-Nite" Anhydrous Ammonia. Don't delay. Call or write today. We can supply carload or less than carload quantities.

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THE MARKETS

(July 12th, 1947)

The sugar markets have continued to demonstrate considerable strength since our report on June 28th and a general advance in prices has been recorded during the period. Trading has been heavy in all departments and the closing quotations in the future market today show an advance of 9 to 18 points over the close on June 28th. September is quoted today as 5.24, which is an advance of 9 points, December is 5.20, also up 9 points, March 1949 is 5.02, up 18 points, and May 1949 is also 5.02, which is an advance of 17 points since June 28th. It is encouraging to see that July 1949 is quoted at 5.03 and September 1949 at 5.04.

Refiners have been reported as clearing the market of offerings on at least two occasions and it will be seen from this that the buying of actual sugars has been heavy. On June 29th telegraphic advice stated that sales on that day totaled approximately 50,000 tons of Cuban and duty free raws for various shipments at 5.60, and again on July 8th the market was reported cleared of all offerings at 5.65.

On July 9th Imperial bought 6,500 tons of Cubas for the first half of September delivery, at 5.70, and Sucrest bought a Cuba cargo for the 1st half of August shipment, and 15,000 bags of Puerto Ricos for the 1st half of September shipment, both at 5.75.

No sales have been reported up to the close of the market today but the Ticker states that raws are firm at 5.75, with sellers now holding available offerings at 5.80 cents a pound.

The demand for refined sugar has been very heavy with reports on July 9th stating that over 1,000,000 tons of refined sugar orders were confirmed by cane and beet refiners before the twenty-five point advance became effective on June 29th. Also on July 9th the American announced an advance in its Southern and other competitive territory list price to 7.75 and other local refiners have followed this advance.

IN WASHINGTON

(Continued from Page 339)

increases for all important foods, except SUGAR, as follows:

Bread	(Plus)	11.5%
Beef	"	23.9%
Pork	"	4.3%
Butter	"	26.3%
Milk	"	11.3%
Eggs	"	4.8%
Fruits and Vegetables	"	8.5%
All Foods	"	10.6%
SUGAR	(Minus)	3.4%

The Bureau of Agricultural Economics has just announced that they expect farm prices to be maintained throughout 1948 and that the impact of bumper crop harvests this year is not expected to force radical downward adjustments in prices of farm products.

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P. O. Box 900 **New Orleans 2, La.**

TECHNOLOGISTS TO HOLD MEETING

Murphy J. Foster, who is the Chairman of the Agricultural Section of the American Society of Sugar Cane Technologists, has announced that a meeting of the Agricultural Section of the Society will be held at the Experiment Station in Houma, La., on Wednesday, August 4th, 1948, beginning at 9:30 A.M.

There will be papers and discussions on Johnson Grass control, rotations, artificial rain making, and the mechanical planting of sugarcane.

All cane growers and others interested are cordially invited and urged to attend this meeting.

CROP NEWS

(Continued from Page 341)

quote this below. The report was dated July 10th.

"The condition of the cane crop in Iberia Parish can be considered as only fair at the present time.

We have had local showers in certain sections of the parish during the week. However, some sections received very light showers. We have not had enough rain throughout the parish to do much good to the crops. Showers occurring in the past few days have been beneficial, but we need heavy rains to relieve the dry condition existing in most parts of the Parish.

It is the general consensus of opinion that our cane crop has been permanently injured by the drought and that a good growing season from now on cannot repair the damage, however, it is thought that the cane would come back sufficiently to make a fair crop if good growing weather prevails until harvest time.

Field examinations show that the cane has a good vigorous root system which should help it to produce fair to good tonnage if sufficient moisture were available.

Observations also show that the morality of suckers is relatively high due to the severe drought that has been prevailing.

The prospective cane tonnage for this

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The Shaver blade is driven by the power takeoff from the tractor.

The Castagnos Shaver is of all steel cutting construction with hard cutting edge blade.

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823 Perdido Street
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532-534 Audubon Bldg.
New Orleans 16, La.

THE NATIONAL BANK OF COMMERCE
New Orleans, La.

PENICK & FORD LTD., INC.
Canal Bank Building
New Orleans, La.

E. A. RAINOLD, INC.
456 Marine Building
New Orleans 12, La.

STANDARD OIL CO. OF N. J.
(Louisiana Division)
P. O. Box 1250 New Orleans, La.

STANDARD SUPPLY & HARDWARE CO., INC.
822 Tchoupitoulas St.
New Orleans, La.

STATE AGRICULTURAL CREDIT CORP., INC.
837 Whitney Building
New Orleans, La.

THORNTON GRAB & DERRICK WORKS, INC.
Jeanerette, La.

WHITNEY NATIONAL BANK
New Orleans, La.

year looks like it should be around 16 to 18 tons per acre depending of course on the kind of weather we get from now until fall.

Field inspections show relatively low borer damage to sugarcane.

Some sections of the parish report that they have not had a good rain in the past 10 weeks, only light showers."

West Baton Rouge Parish. A. E. Camus, of West Baton Rouge Parish, has also favored us with a special report. Mr. Camus states that the West Baton Rouge sugarcane crop is considered above normal for this season of the year. Plant cane is exceptionally good with the stubble good but weak in spots. Sufficient rain keeps the cane in growing condition, but more rain is needed to carry the crop through.

Even though 1947 was a very bad sugar year in West Baton Rouge Parish, Mr. Camus states that many of his farmers made good yields. He has included a list of the three highest producers in three groups in his parish and we feel sure that these records will be of special interest to our readers. They are as follows:

	Acres Sugar cane Harvested For Sugar	Yield Per Acre	
		Tons Cane	Pounds Sugar
GROUP I			
Poplar Grove Pltg. & Ref. Co.	983.7	17.3	277
Devall Co., Inc.	748.5	16.0	272
Westover Pltg. Co., Ltd.	699.9	15.5	243
GROUP II			
Carlo & Frank Messina & Gus Pizzalatto	9.1	36.9	593
A. A. Cancienne	28.9	28.1	478
J. T. McLin & Sons	9.5	24.2	405
GROUP III			
Gasper Gentile	28.6	30.2	484
Julia Payne	1.8	27.7	475
Joseph Landry	8.9	24.3	424

RAIN

(Continued from Page 340)

1-25/100ths of an inch can be produced over an area by the dry ice method. By area it is meant that if a properly developed cloud is encountered, rainfall can be produced within an area of 5 to 10 miles along the course of this cloud.

If there is any grower or group of growers who want additional information as to the cost or steps to be taken in attempting to produce rainfall, they should get in touch either by phone or mail with the writer in New Orleans.

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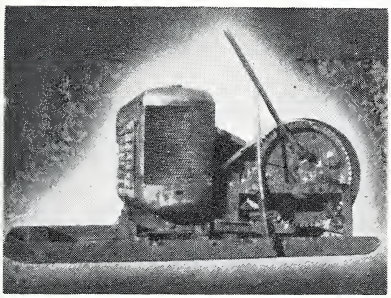

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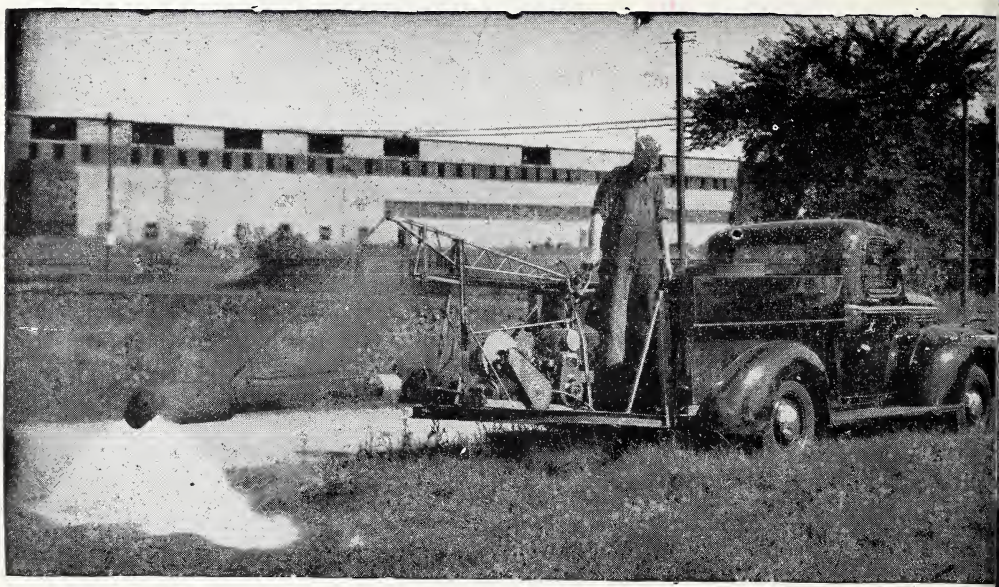

The above picture shows the Model "A" mounted on circular track which, in turn, is bolted to truck body floor for straight-away burning. When so mounted the burner unit can be swung through an arc of 180 degrees by the operator. The lower picture with the same mounting shows the burned set at an angle with a special burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a dense, high velocity, intensely hot flame which sears green vegetation quickly. Under average conditions the first trip can be made at about 8 m.p.h. and the second trip, which should be made from 2 to 10 days later after the sun has dried the vegetation, the speed may be much faster—10 to 15 m.p.h.

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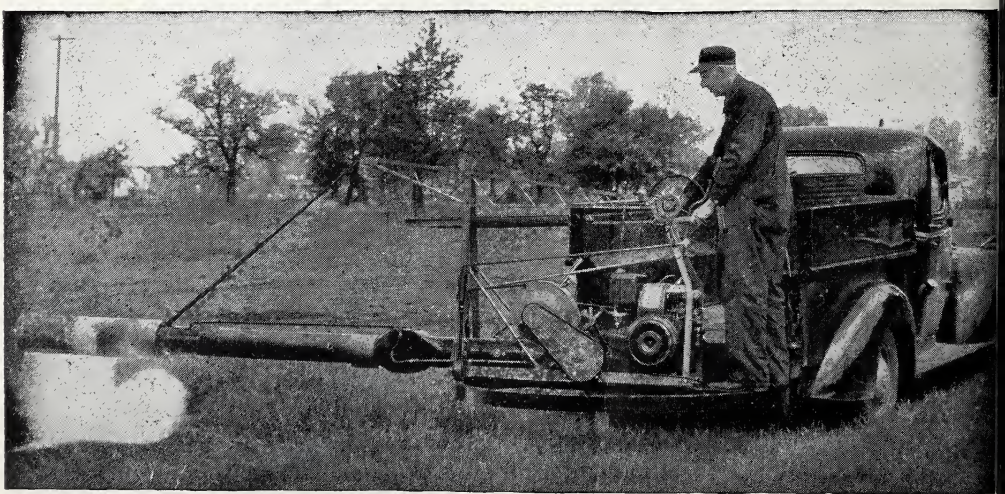

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THE SUGAR BULLETIN

ed as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., AUGUST 1, 1948 No. 21

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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IN WASHINGTON WITH C. J. BOURG

Congressman Roy O. Woodruff of Michigan has published in the Congressional Record a discussion of the 1948 distribution and prices, in which appear the following significant paragraphs:

"Sugar was the first commodity to be brought under price control at the beginning of the war and was the last commodity to be released from control after the war was over. Consequently, sugar prices did not soar as did other prices during the early war and postwar periods. Moreover, when wartime controls were removed, sugar prices did not increase, whereas prices of nearly every other commodity bounded sharply upward when released from wartime restrictions. As a result of these conditions, sugar is now one of the cheapest commodities in the market. As compared with prewar levels, sugar is nearly 35 percent cheaper than the prices for other commodities produced by farmers. It is about 25 percent cheaper than prices for the commodities farmers buy, and is about 25 percent cheaper than all foods at retail. Against this picture of relatively low sugar prices, the consuming public has more than twice as much money to buy sugar with now as it did in the prewar period.

"Raw sugar prices had declined approximately 17 percent by May 1948. Refined sugar prices had declined by 8 percent in the same period. Even taking into account the recently announced recovery in these prices, they still represent a decline of 8 percent for raw sugar and 6 percent for refined sugar below the level of a year ago. Retail prices have failed to reflect the declines in wholesale prices and, therefore, there is no justification for any increase in the retail price of sugar as a result of the recent partial recovery in prices of raw and wholesale refined sugar.

"While sugar prices have been falling, other prices and grower costs have been rising. While this drop in sugar prices has been occurring, prices for all farm products have gone up about 5 percent; prices for commodities bought by farmers have gone up nearly 9 percent; and retail food prices have increased from 5 to 15 percent. The price of beverages has gone up 13 percent in the year, and the price of cereals and bakery products has increased 10 percent. In line with the upward trend of everything else, wage earners have received increases approximately in line with these price rises, with the result that they have been able to maintain their high purchasing power.

"These declines in sugar prices have occurred despite the mandate of Congress in the Sugar Act of 1948 that quotas shall be maintained so as to establish and keep sugar prices at fair and reasonable levels as between producers and consumers. Perhaps the best standard to judge the general fairness and equitableness of sugar prices between the interests of producers and consumers, as spelled out in the Act itself, is the relationship between sugar prices and living costs in the first 10 months of 1947, when sugar was still

(Continued on page 360)

DISEASE TESTING AND SEEDLING SELECTION WORK AT THE HOUMA STATION DURING 1947

By E. V. Abbott, Senior Pathologist, Eaton M. Summers, Associate Pathologist, and G. B. Sartoris, Senior Pathologist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

The largest number of seedlings ever handled at the Houma Station in any one year were grown and subjected to preliminary disease tests during 1947. Approximately 43,000 seedlings representing 46 crosses from the 1946 breeding season were grown in the greenhouse, some 36,000 were potted after eliminating weak ones and those susceptible to mosaic, and approximately 25,000 were set in the field, following further elimination for weakness and mosaic susceptibility. This was in addition to the 20,000 carried as first stubble from the 1945 breeding season, and some 1,500 from previous years. Handling this large number was made possible through a grant of funds from the American Sugar Cane League. The number of seedlings in various categories, those subjected to disease tests, replanted, and assigned C. P. numbers are shown in table 1.

During 1948, about 28,000 seedlings from 57 crosses of the 1947 breeding season are being potted from over 36,000 that were grown in the greenhouse, and approximately 20,000 will go to the field.

During the period of about 10 years that the large scale seedling testing work has been carried on at Houma, certain objectives of the breeding work have remained unchanged, while new ones have come to receive consideration as a result of changing needs of the industry. A certain degree of disease resistance and a certain minimum in tonnage and in desirable physical characteristics are taken for granted. An early maturing cane to take the place of C. P. 28/19, but having other quali-

TABLE 1. Summary of testing and distribution of seedlings and pathological observations on agronomic selections, foreign varieties, and prospective breeding material in the variety improvement program in 1947.

Classification	No. examined in field	No. inoculated with mosaic	No. inoculated with red rot	Number of Sucrose Analyses					No. replanted as		C. P. numbers assigned
				C. P. candidates	Pre-C. P. candidates	Single stools	Controls	Total	Pre-C. P. candidates	C. P. candidates	
'41 series from Houma	193			148			19	167			23
'42 series from Canal Point	58			46			6	52			16
'42 series from Houma	861			816			82	898			93
'43 series from Canal Point	128			98			11	109			27
'43 series from Houma	601			49	454		59	562		87	14
'44 series from Canal Point	177			52	62		17	131		6	21
'45 series from Canal Point	623	623			307		62	369		102	
'45 series from Houma	13,387					1,382	36	1,432	313		
'46 series from Houma	20,767	39,922									
Totals	36,795	40,545		1,209	823	1,382	292	3,720	313	195	194
Parent & Foreign Varieties											
Miscellaneous importations	33	18	18					18		4[1]	
U. S. varieties	12	12									
C. P. Varieties											
In pathology plots '46 series	204	204	204				16	166			
Others	30							1			
Grand Totals	37,704	40,779	222	1,209	823	1,382	308	3,905	313	199	194

[1] To be considered as prospects for agronomic testing.

ies lacking in that variety, is still much o be desired. Machine harvesting has laced a premium on erectness, and mphasis is being placed on obtaining arieties that are satisfactory in this espect both in the selection of parents hat may impart this quality to their rogeny, as well as in the selection of ndividual seedlings. The problem of rash and high fiber have also assumed reater importance than formerly. It is bvious that there are problems both ld and new facing the industry and the ane breeder. These have led to in- uiries from growers and others as to /hat steps are being taken in the va- ietal improvement program toward olving them. Work that is in progress oward meeting these problems will be iscussed in this report.

Early Maturity

A variety that would give yields of ugar per ton of cane equal to that of . P. 28/19 early in October, and that ould have other qualities now required f a commercial cane, would be of great enefit to the industry. Some sacrifice ould be taken in tonnage if the other equirements were met.

In the past 10 years, several varieties ith sucrose content comparable with iat of C. P. 28/19 have been advanced o the stage of test field testing by the gronomists. Two of them. C .P. 33/425 nd C. P. 36/13 have been released. . P. 33/425 has not met tonnage re- uirements and has not become an nportant commercial cane. The place . P. 36/13 will take still remains to e determined. Two other varieties, C. . 36/197 and C. P. 37/5, are now on crease at the secondary stations. C. P. 6/197 gives satisfactory yields, is di- ease resistant, and stubbles well, but dges badly. C. P. 37/5 is susceptible o both red rot and root rot, and prob- bly is a poor commercial risk. Other gh sucrose canes that have gone to ie test fields have been discarded for ne reason or another.

Two varieties with relatively high su- ose, C. P. 45/73 and C. P. 45/125, ere sent to the test fields in the fall 1947. Others that have been turned over to the agronomists have not yet reached that stage.

Since these few high sucrose canes have been sifted from about 80,000 that have been tested, it is apparent that high sucrose combined with even minimum requirements of disease resistance and tonnage, is very rare.

The chances of getting larger numbers of high sucrose cane will be increased as soon as superior male parents are developed. Pollen sterility is a common characteristic of most sugarcanes. Good pollen parents (males) occur very infrequently. From all of the C. P. varieties that have reached advance stages of selection during the past 20 years, only C. P. 27/108, C. P. 30/24, C. P. 33/372, C. P. 33/224, C. P. 36/105, C. P. 43/74, C. P. 44/156, and C. P. 46/202 are pollen fertile. Among the 18 C. P. varieties released for commercial use, only C. P. 36/105 is pollen fertile. From the hundreds of imported varieties only one, P. O. J. 2878, is useful for breeding at the commercial level. It is this dearth of good males that imposes great limitations on the breeding program.

In the past we had to depend upon males of inferior quality although they did transmit the essential characteristics of disease resistance and vigor. Several of the pollen parents used in recent years are new and their combining ability has not been fully determined but the number of high quality seedlings has been greatly increased. What is most urgently needed now is an expanded testing program. All of the new C. P. varieties should be grown in each of the districts of the Louisiana sugar belt. In this way only can be found new varieties especially adapted to the environment of each district, and the new parents that are needed to develop superior commercial varieties. Superior breeding stocks like superior commercial varieties cannot be imported. They have to be developed for the particular environments and the particular requirements of Louisiana.

The infrequent occurrence of pollen fertility is one of the minor difficulties in sugarcane breeding but it apart from

others makes simple, genetic plans of breeding unworkable.

Most of the high sucrose canes that have been produced in the past came from crosses of which only one parent was above average in that respect. Certain high sucrose varieties that the breeder would have liked to use as parents would not flower at the breeding stations at Canal Point, in Puerto Rico or the Canal Zone, and thus could not be utilized for breeding. In recent years, however, a number of good sucrose canes have been obtained from the nurseries at Houma that have flowered, and these have been used in crosses in the '45, '46, and '47 breeding seasons. Among these are C. P. 34/120, C. P. 36/13, C. P. 36/62, C. P. 36/203, C. P. 43/54, C. P. 43/64, C. P. 44/2, C. P. 44/156, and C. P. 46/202. The Florida Station canes, F. 31-962 and F. 36-819, have also been used, as well as some seedlings that have not been assigned C. P. numbers. C. P. 29/320 and C. P. 29/120 have not bloomed often in the past, but it was possible to use them in 1945, 1946, and 1947. Several thousand seedlings from the above varieties are now in the nurseries at Houma, and it is believed that their use as parents will increase the probability of obtaining high sucrose canes.

Erectness

Erectness in growth habit to the extent that a variety can be harvested mechanically has come to be one of the most important characteristics for a commercial cane in Louisiana that is to be grown on the larger units. It is also desirable but not essential even though cane is cut by hand. The fact that this has been receiving considerable attention in the breeding and selection work has been reported to the Contact Committee previously. For the past several seasons Dr. Sartoris has been using parent canes that have been chosen for their erectness, and several thousand seedlings from them are now growing at Houma. Among these parent varieties are C. P. 29/120, C. P. 29/320, C. P. 30/24, C. P. 29/103, C. P. 33/372, C. P. 43/74, and C. P. 34/79. C. P. 34/120, while not an ideal machine cane, is giving many seedlings that are erect. The breeding of varieties for mechanized harvesting is of great importance, but it necessarily has been limited to what could be done incidentally. It is believed that progress in developing machine-type canes which also possess the other desired characteristics—disease resistance, high yield, and good quality—could be hastened by the addition of personnel to work specifically on this breeding problem.

Seedlings Combining Good Sucrose and Erectness

Prior to 1945, many seedlings with sucrose well below that of Co. 281 were assigned C. P. numbers. The larger number of high sucrose seedlings that were available that year made it seem advisable to eliminate all of those with sucrose lower than that of Co. 281 unless they were outstanding in some other respect. As a result of the growing demand for erect varieties suitable for mechanical harvesting, the practice was begun of rating all seedlings with respect to erect habit of growth, a factor that had been largely disregarded previously.

Since these changes were put into effect, 604 varieties have been given C. P. numbers. Six of these failed to get ratings on lodging, so only 598 were rated on both sucrose and lodging. In addition, all were rated on stalk diameter. Three sucrose classes, based on Co. 281, were used, i.e., low (below 100 percent), medium (100-109 percent), and high (110 percent or above). Three stalk diameters were used: large (equal to Co. 290), medium (equal to C. P. 29/320), and small (Co. 281 or smaller). Two ratings on habit of growth, erect or suitable for mechanical harvesting and lodged, were included in the comparisons.

Out of the total of 598 varieties, 27 were rated as high sucrose canes, 55 as erect, and 158 as large diameter canes. Thirty-eight combined all 3 of these characteristics. Presumably, some of these should prove of value in the field.

One hundred thirty varieties with high sucrose were erect and medium in

iameter; 80 with medium sucrose were arge barrel and erect; and 133 with nedium sucrose and medium barrel, vere erect. It is possible that some of he varieties in these 3 groupings will rove of commercial value.

Fiber

Another question that is often asked s what can be expected in the way of anes with lower fiber. Low fiber in ugarcane is characteristic of Noble anes or Noble-type hybrids, i.e., hyrids that contain enough Noble blood o make them predominantly Noble in hysical characteristics. However, susceptibility to the important diseases ocurring in Louisiana is also characterstic of Noble canes, and hybrids conaining enough Noble blood to make hem of Noble type, that is, with large arrel and low fiber, are very likely to e too susceptible to one or more of ur diseases to be grown here comnercially. This has been found to be rue in the progenies of the many Noble arents that have been used in the reeding work at Canal Point, and by he considerable number of hybrids proluced at breeding stations in other ountries that have been tested in Louiana. In other countries or in other ugarcane-growing areas of the United tates where the disease problems are ifferent, breeding for a combination of isease resistance and low fiber is a impler matter than accomplishing the same thing for Louisiana.

The relatively high fiber that characterizes many of the C. P. canes comes principally from the wild or *Saccharum spontaneum* blood they carry, but it is also from these wild canes that we get the degree of resistance to mosaic, root rot and to some extent, other diseases, that is so necessary in Louisiana. If we are not to sacrifice what has been gained in that respect, a relatively high degree of fiber is probably inevitable. However, varieties are being obtained that approach the lower fiber of Co. 290. C. P. 36/13, for example, is given a milling factor of 1.04 (equal to C. P. 29/116) in Dr. Arceneaux's tests, and it is encouraging to note that among 14 varieties recently sent to the test fields, 9 have factors varying from 1.00 (equal to Co. 281) to 1.04.

Principal Crosses

Among the many hundreds of combinations of parents that have been used in the breeding work at Canal Point, a few stand out with respect to the number of canes produced from them that have been released or advanced to the test field stage. Some of the most important of these crosses are listed in table 2, together with the test field and released varieties that have been obtained from them.

The crosses Co. 281 x C. P. 1165 and P. O. J. 2725 x C. P. 1165 have produced several important commercial

TABLE 2. Some important crosses from which several released or promising unreleased varieties have been produced.

Cross	No. seedlings tested		C. P. Nos. assigned	Test field introductions	Released Varieties	
	Through C.P. stage	In pre-C.P. stage			No.	Variety
Co. 281 x U. S. 1694	10,974	2,568	350	13[1]	4	C. P. 28/11, 28/19, 33/243, 33/425
Co. 281 x C. P. 27/34	3,021	752	35	3[2]	1	C. P. 29/320
Co. 281 x P. O. J. 2878	1,004	1,389	134	3[3]	1	C. P. 34/120
Co. 281 x C. P. 27/108	8,389	3,739	140	3[4]		
Co. 281 x C. P. 1161	5,049	----	52	4[5]		
Co. 281 x C. P. 1165	7,570	3,987	158	14[6]	3	C. P. 34/92, 36/19, 36/105
C. P. 34/120 x C. P. 30/24	1,728	8,572	147	----		
C. P. 34/120 x C. P. 27/108	1,442	1,426	59	1[7]		
C. P. 34/120 x C. P. 36/211	510	1,861	18	----		
P. O. J. 2725 x C. P. 1165	6,011	951	184	25[8]	4	C. P. 29/103, 29/116, 29/120, 36/183

[1] C. P. 28/11, 28/19, 29/283, 29/291, 31/551, 33/243, 33/253, 33/409, 33/425, 34/151, 36/193, 38/18, 43/49.
[2] C. P. 29/320, 43/13, 44/51.
[3] C. P. 31/529, 34/53, 34/120.
[4] C. P. 37/5, 44/69, 45/73.
[5] C. P. 43/28, 43/32, 44/72, 45/119.
[6] C. P. 34/92, 36/17, 36/19, 36/105, 43/33, 43/47, 43/74, 44/28, 44/92, 44/101, 44/153, 45/122, 45/125, 45/137.
[7] C. P. 45/155.
[8] C. P. 29/89, 29/94, 29/99, 29/103, 29/108, 29/116, 29/120, 29/131, 29/137, 29/142, 34/139, 36/62, 36/70, 36/75, 36/80, 36/85, 36/94, 36/111, 36/178, 36/179, 36/183, 36/187, 36/191, 36/194, 36/197.

canes for Louisiana, as well as others of promise that have not been released. The combination Co. 281 x U. S. 1694, while producing 4 commercial varieties, gives a low percentage of seedlings that meet present day requirements of the industry, and is no longer being extensively used in the breeding work.

As a matter of interest, some of the new combinations of parents that have been used in the '46 and '47 breeding seasons are listed in table 3. The first selections from the progenies of these crosses will be made in the fall of 1948.

TABLE 3. Some new combinations of parents that have been used in the '46 and '47 breeding seasons.

Cross	No. seedlings being tested	Some characteristics of parents
Co. 281 x C.P. 36/211	1500	Good sucrose
C.P. 29/116 x C.P. 43/74	1391	Low fiber; erectness
C.P. 29/116 x C.P. 38/34	1359	Low fiber
C.P. 29/120 x C.P. 30/24	974	Good suc.; erectness
C.P. 29/120 x C.P. 33/372	1505	Good suc.; erectness
C.P. 29/320 x C.P. 36/211	2087	Good suc.; erectness
C.P. 29/320 x C.P. 42/10	655	Good suc.; erectness; low fiber
C.P. 29/103 x C.P. 33/372	726	Good suc.; erectness
C.P. 29/103 x C.P. 33/224	648	Good suc.; erectness
C.P. 36/105 x C.P. 27/108	916	Erectness; vigor
C.P. 36/203 x C.P. 43/74	851	Good suc.; erectness; low fiber
C.P. 36/203 x C.P. 44/156	1081	Good sucrose
C.P. 43/64 x C.P. 33/372	3126	Good suc.; erectness
C.P. 43/64 x C.P. 27/108	457	Good suc.; vigor
C.P. 43/64 x C.P. 36/105	600	Good sucrose; vigor; erectness
C.P. 43/64 x C.P. 36/211	1250	Good sucrose;
C.P. 43/64 x C.P. 43/74	500	Good suc.; erectness
P.O.J. 2725 x C.P. 44/156	510	Good suc.; low fiber
P.O.J. 2725 x C.P. 46/202	863	Good suc.; low fiber

Foreign Varieties

In the past, varieties imported from other countries have played a very important role in Louisiana. The industry was founded, of course, on such varieties and depended on them for more than a century, with domestically produced canes only comparatively recently becoming widely grown. Even now there is a considerable acreage of one foreign variety, Co. 290, in the State. The possibility that varieties produced in other countries may still have value for us is not being overlooked, and they are regularly received by the Department of Agriculture through quarantine channels from breeding stations throughout the world. However, since the re-

(Continued on next page)

WAGE, PRICE HEARING WELL ATTENDED

The Government Wage Rates and Price Hearing was held in Thibodaux as per schedule on Thursday, July 22nd before probably the largest gathering of Louisiana sugar men ever to attend one of these meetings. Some idea of just how big the gathering was is gleaned from the fact that the hearing had to be moved from its original place in the Agricultural Auditorium to a motion picture theatre to accommodate the crowd.

George A. Dice, Ward S. Stevenson, A. R. Defelise and Thomas H. Allen conducted the hearing for the Production and Marketing Administration and testimony from a number of witnesses representing the cane farmers, the sugar producers, and labor was put into the record.

Two major briefs were filed for the consideration of the Government. W. F. Giles filed one for the Grower-Processor Committee, and E. W. McNeil filed one for the Labor Committee of the American Sugar Cane League.

These briefs will be printed in *The Sugar Bulletin* when space is available.

IN WASHINGTON

(Continued from page 355)

under price control. If this relationship had been maintained, the wholesale price of refined sugar now would be nearly 9 cents per pound. In other words, the present market levels are more than a cent a pound below levels indicated by the Sugar Act.

"At the same time that the producers of sugar have been hard pressed by increases in costs and reductions in the price for their product, those who distribute sugar have enjoyed a greater margin. The distributor's spread or margin, as indicated by most recently available official figures, shows an increase of approximately 16 percent in the past year, and is nearly two and one-half times what it was in the pre-war period."

DISEASE TESTING

(Continued from Page 360)

lease of Co. 281 in 1930 and Co. 290 in 1933, no foreign variety has been tested that has met the present needs of the industry.

The number of varieties that have been received from other countries and tested at Houma since the above varieties were released is considerably (over 400). It was not expected that many of them would have any commercial promise, but they were grown here to obtain their reaction to diseases for the benefit of the cane breeder who might be able to make use in the breeding work of some desirable quality they possessed. In table 4 are listed those tested in Houma in recent years, that might have been expected to have some commercial promise. Most of them have proved too susceptible to one or more of our diseases to be worth agronomic testing, and thus far most of those with satisfactory disease records have been too low in sucrose to seem to have any commercial promise. Sixteen foreign varieties not listed in the table were received at Houma in the spring of 1948.

TABLE 4. FOREIGN VARIETIES. Field records and disease ratings on foreign varieties that have been tested at the Houma Station since 1940.

Variety	Country of origin	Growth	Stubbling	Diseases		Sucrose % Co. 281	Remarks
				% Mosaic	Red[1] rot		
B. 3439	Barbados	Poor	Very poor	90	MS		
B. 34104	"	Poor	Poor	--	VS		
B. 35187	"	Fair	Fair	Tr.	MS	79	
B. 35245	"	Very Poor	Dead	100	S		
B. 37161	"	Good	Poor	100	S	71	
B. 37172	"	Good	Fair	--	R	74	
B. 38192	"	Poor	Poor	--	R		
B. 38233	"	Poor	Dead	--	VS		
B. 4098	"	Poor	Fair	100	S		
C. A. C. 87	Philippine Isls.	Excellent	Excellent	Tr.	R	71	To agronomists
Co. 244	India	Poor	Good	--	R		
Co. 312	"	Good	Good	Tr.			Badly lodged
Co. 313	"	Fair	Fair	100	MS		
Co. 331	"	Good	Good	20	VS		
Co. 355	"	Poor	Poor	--			
Co. 385	"	Excellent	Excellent	50	S	99	
Co. 407	"	Excellent	Excellent	--	VS	71	
Co. 408	"	Excellent	Good	--	S	76	
Co. 413	"	Excellent	Excellent	--	MS	86	To agronomists
Co. 453	"	Good	Fair	--	VS	63	
Co. 464	"	Fair	Excellent	Tr.	VS	75	
D. 166-34	British Guiana	Poor	Poor	--	MS		
M. 275	Puerto Rico	Good	Good	--	S	77	
M. 317	"	Poor	Dead	--	S		
M. 1900	"	Poor	Dead	20	S		
N. Co. 151	South Africa	Fair	Very poor	--	MS	89	
N. Co. 291	"	Good	Excellent	20	S	66	
N. Co. 310	"	Good	Excellent	--	VS	96	Replanted 1947
N. Co. 348	"	Fair	Excellent		S	53	
P. O. J. 2961	Java	Poor	Poor	--	--		
P. R. 807	Puerto Rico	Poor	Poor	--	S		
P. R. 900	"	Very Poor	Dead	Tr.	VS		
Q. 10	Queensland	Poor	Poor	100	S		
Q. 20	"	Very poor	Dead	--	MS		
Q. 25	"	Fair	----	50	MS		
Q. 42	"	Good	Very poor	50	MS	96	Replanted 1947
Tucuman 1199	Tucuman	Poor	Poor	--	VS		
Tucuman 1376	"	Excellent	Good	--	S		To agronomists
Tucuman 1406	"						
Tucuman 1590	"	Fair	Fair	--	MS	53	
Tucuman 2622	"	Good	Good	--	VS	80	
Tucuman 2645	"	Good	Good	--	S	78	
Tucuman 2657	"	Good	Very good	--	MS	83	
Tucuman 2680	"	Fair	Good	--	R	80	
Tucuman 2683	"	Fair	Good	--	S	57	
Imp. No. 1159	Hawaii	Good	Poor	Tr.	MS	85	Replanted 1947
Imp. No. 1176	"	Excellent	Good	20	S	92	

[1] R=resistant; MS=moderately susceptible; S=susceptible; VS=very susceptible.

1948 SUGAR LETTER NO. 4 ON TENANT AND SHARE CROPPER PROTECTION

The letter printed below was issued by the Production and Marketing Administration in Baton Rouge, La., on June 28th.

To County Comitteemen and Parish Administrative Officers

Subject: Tenant and Share Cropper Protection

A memorandum on the above subject has recently been received from the Director of the Sugar Branch. This memorandum clarifies several interpretations of previous proportionate share determinations which have been in effect during prior programs. In order to get the record straight, we believe it advisable at this time to list rulings on the old cases that have come to our attention and to give immediately following the latest interpretations by the Sugar Branch. These latest interpretations are shown in quotation marks.

(a) No tenant could be evicted without sufficient cause (laziness, incompetence, etc.)

"The Act provides certain protection to tenants and share croppers, but this protection relates to classes of producers, rather than to individual producers. Consequently, payment would not be withheld from a landlord or producer who had evicted a tenant, provided such tenant had been replaced or if such action had not been taken *for the purpose* of diverting payment to the landlord or other producers."

(b) If a tenant were evicted for cause he must be substituted with another tenant having the same leasing agreement and he must be settled with for any equity he may have in the crop.

"In a case involving the eviction of a tenant, whether or not for cause, the County Committee would be required to determine the percentage shares of payment for all producers on the basis of the ownership of the crop. If the crop was completed and marketed for the account of the evicted tenant, as might be appropriate if the eviction occurred shortly before harvest, the percentage shares would be in accordance with the terms of the original cropping agreement. If the crop was divided between the evicted tenant and the landlord or succeeding tenant under a supplemental agreement, the percentage shares would be in accordance with such supplemental agreement. If the landlord or succeeding tenant bought up the interest of the evicted tenant, as might be particularly appropriate in the early stages of crop production, and could produce satisfactory evidence to that effect, the percentage shares would be determined accordingly and the evicted tenant's name would not appear on the application. However, if the landlord or succeeding tenant and the evicted tenant could not agree on the settlement to be made with such tenant on account of the transfer of his equity in the crop, the County Committee would be required to determine a fair and reasonable basis of settlement for such transfer. If the landlord or succeeding tenant settled with the evicted tenant up on such basis, or in the event settlement on such basis was refused by the evicted tenant but the successor agreed to make such settlement if the evicted tenant would subsequently accept it, payment could be approved on the basis of the transfer or impending transfer in ownership of the crop

If the landlord or succeeding tenant refused to settle with the evicted tenant on such basis, all payments with respect to the disputed equity in the crop shall be withheld until such settlement is made or equity is otherwise clearly established. In the meantime, payments to all producers may be approved with respect to undisputed equities in the crop."

(c) A landlord may not increase his percentage share of the crop without loss of his benefit payment since this would be considered as diverting a payment to which the tenant would be entitled.

"The percentage share of a landlord in a crop may be increased without loss of payment to the landlord, provided the change in the leasing or cropping agreement was for cause other than *for the purpose* of diverting a payment or part of a payment to which a tenant or share cropper would otherwise be entitled."

(d) A landlord may not reduce the number of tenants on the farm below the number that were on the farm in the previous year since that would be considered as diverting a payment to other producers.

"The proposed determination for 1948 provides that the number of tenants on the farm may be reduced below the previous year, provided the circumstances warrant the approval of such reduction by the State Committee. In such event it would be held that the reduction was not made for the purpose of diverting the Sugar Act payment."

Please make note of the above interpretations and have your committee consider all cases that may come to their attention in the light of the new interpretations.

L. A. MULLIN
Executive Officer

THE MARKETS

(July 26, 1948)

Although there has been no recession in the spot price of raw sugar since our report on July 12th, the future market has shown the strain of unsettled conditions both at home, where the politicians have begun to drag out the sugar "football" and in Europe where conditions are uncertain, to say the least.

The number 5 domestic sugar futures contract closed today 3 to 11 points lower than the close on July 12th and the indications are that both buyers and sellers are being rather cautious and awaiting developments. September closed today at 5.21, which is 3 points down from the close two weeks ago, and December closed at 5.14, which is 6 points below the July 12th close. March 1949 closed at 4.91, down 11 points; May 1949 closed at 4.93, down 9 points; and July 1949 closed at 4.94, also down 9 points from the close two weeks ago. September 1949 is also down 9 points, closing today at 4.95.

A report of a strike of dock workers in Puerto Rico on July 22 had the effect of firming up the market for actual sugars. On that day the American was reported as buying 15,000 bags of Puerto Ricos, clearing August 12th; 1,800 tons of Philippines for the 2nd half of July shipment; 500 tons of Philippines afloat; 50,000 bags of Puerto Ricos, clearing October 12th; and another 50,000 bags of Puerto Ricos, clearing October 19th, all at 5.75. On July 23rd Refined Syrups bought 20,000 bags of Puerto Ricos clearing September 2nd at 5.75, and the American purchased another 20,000 bags clearing September 21st at the same price.

Today the ticker reports that offerings of raws are scarce due to the Puerto Rico dock workers' strike with sellers asking 5.80 to 5.85 for available supplies.

In the refined sugar markets sellers have been busy catching up with the recently booked orders.

SOME COMPARATIVE RESULTS OF SUGAR CANE TEST FIELD VARIETIES

By C. B. Gouaux, Associate Agronomist, Louisiana State University and Agricultural and Mechanical College; Agricultural Experiment Stations, W. G. Taggart, Director.

Sugar cane field tests of varieties as conducted on the test fields of the Louisiana Experiment Station give information on representative soils of the cane belt. The comparative data consists of averages of results of the present field canes at the eight outfield locations. These results are from three and four year periods at Cinclare; a three year period at Glenwood, Reserve, Meeker, Shirley and Caffery test fields; and a six year period for the Billeaud and Youngsville test fields.

Data from the annual Experiment Station Sugar Cane Test Field Reports were used in making all calculations of average results in this report. All of the sugar calculations are based on the (1937-1947) AAA table issued April 19, 1938, "Commercially Recoverable Sugar Determination, For Louisiana Sugar Cane." It is the same table that is used in making AAA calculations for the sugar cane benefit payments in the sugar cane belt of Louisiana.

Averages of results of the test fields are as follows for the eight locations:

CINCLARE TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds Available 96° Sugar		Rank	No. Tests
	Brix	Sucrose	Purity		Per Ton	Per Acre		
Yazoo Soil (1944-1947) 4 Years								
C. P. 36-105	16.16	12.94	80.07	24.52	175.74	4309	1	11
C. P. 29-120	16.47	13.39	81.30	22.93	183.04	4197	2	11
C. P. 34-120	16.10	12.80	79.50	23.59	173.50	4093	3	11
C. P. 29-320	16.62	13.66	82.19	21.53	187.46	4036	4	11
Yazoo soil (1945-1947) 3 Years								
C. P. 36-105	16.79	13.74	81.83	24.47	188.74	4618	1	6
C. P. 36-13	16.52	13.53	81.90	24.14	185.38	4475	2	6
C. P. 29-120	16.88	13.90	82.35	22.38	191.40	4284	3	6
C. P. 34-120	15.88	13.24	83.38	22.71	180.64	4102	4	6
C. P. 36-183	16.05	12.91	80.44	22.36	175.26	3919	5	6
C. P. 29-320	16.93	14.02	82.81	21.10	193.34	3733	6	6
Sharkey soil or "black land" (1945-1947) 3 Years								
C. P. 33-224*	15.42	12.27	79.57	18.27	165.02	3015	1	5
C. P. 36-105	15.78	12.73	80.67	17.43	172.38	3005	2	5
C. P. 34-120	15.99	12.46	77.92	17.46	168.06	2934	3	5

*(Unreleased variety).

GLENWOOD TEST FIELD

Yazoo soil (1945-1947) 3 Years

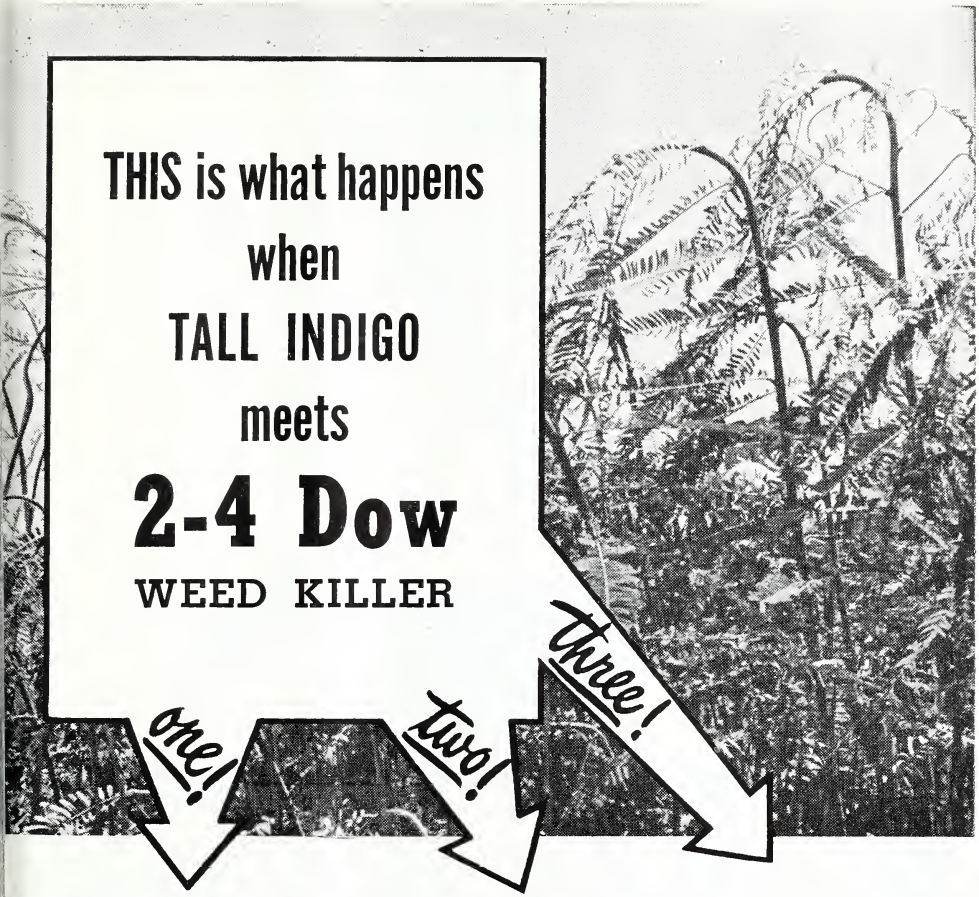
C. P. 36-183	16.08	12.19	75.81	25.54	163.74	4182	1	7
C. P. 34-120	16.16	12.21	75.56	25.24	164.06	4141	2	7
C. P. 36-13	16.51	12.65	76.62	23.66	171.10	4048	3	7
C. P. 36-105	16.43	12.62	76.81	23.30	170.62	3975	4	7
C. P. 29-120	15.95	12.11	75.93	19.93	162.46	3238	5	7

RESERVE TEST FIELD

Yazoo soil (1945-1947) 3 Years

C. P. 36-183	15.39	11.72	76.15	27.77	156.32	4341	1	8
C. P. 36-105	15.90	12.46	78.36	25.74	168.06	4326	2	8
C. P. 34-120	15.28	11.78	77.09	27.49	157.28	4324	3	8
C. P. 36-13	15.97	12.55	78.58	24.73	169.50	4192	4	8
C. P. 29-120	15.40	11.68	75.84	20.57	155.68	3202	5	8

THIS is what happens when TALL INDIGO meets 2-4 Dow WEED KILLER



The effect of 2-4 Dow Weed Killer can be noticed on Tall Indigo Weed in about two hours after spraying. At first there is a slight wilting of the foliage, followed by pronounced wilting and then slumping of the stems.

Usually in 4 to 6 days after treatment, the stems and leaves turn brilliant yellow. The nodes swell and become brittle. Finally leaves drop off and stems gradually break apart at the nodes.

In 3 to 4 weeks after spraying, most of the stems have separated and dried out. Not a weed in sight in the sprayed fields! Cane—unharmed—grows with new vigor.

esults count! Successful cane growers have learned at chemical weed control is the surest way to a bigger, etter crop. In many cases, outstanding yields have roved the effectiveness of the treatment.

ow is the time to plan *your* next season's weed control rogram. Get the facts about 2-4 Dow Killer, Formula), for very low volume spraying by plane or by ground quipment. Ask also about 2-4 Dow Weed Killer Powder odium Salt of 2,4-D), which is available for growers ho prefer a sodium salt. See your local experiment ation or your dealer—or write to Dow.

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

AGRICULTURAL CHEMICAL DIVISION
HE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

MEEKER TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds Available 96° Sugar		Rank	No. Tests
	Brix	Sucrose	Purity		Per Ton	Per Acre		
Yahola soil (1945-1947) 3 Years								
C. P. 36-13	16.14	12.14	75.22	29.23	162.94	4763	1	8
C. P. 34-120	16.24	12.43	76.54	26.74	167.58	4481	2	8
C. P. 36-105	15.97	11.77	73.70	28.07	157.12	4410	3	8
C. P. 36-183	15.52	11.20	72.16	27.46	148.10	4067	4	8
C. P. 29-320	16.42	12.38	75.40	21.81	166.78	3637	5	8

SHIRLEY TEST FIELD

Yahola soil (1945-1947) 3 Years

C. P. 34-120	15.59	12.01	77.04	34.51	160.86	5551	1	9
C. P. 36-13	15.47	11.76	76.02	30.69	156.96	4817	2	9
C. P. 36-183	15.31	11.50	75.11	31.23	152.90	4775	3	6
C. P. 29-320	15.97	12.27	76.83	28.35	165.02	4678	4	9
C. P. 36-105	15.22	11.03	72.47	31.97	145.48	4651	5	9

CAFFERY TEST FIELD

Baldwin clay loam (1945-1947) 3 Years

C. P. 34-120	16.34	13.22	80.91	25.20	180.32	4544	1	7
C. P. 36-105	17.08	13.95	81.67	22.16	192.20	4259	2	7
C. P. 36-183	16.34	13.17	80.60	23.35	179.49	4191	3	7
C. P. 36-13	16.35	13.30	81.35	21.62	181.60	3926	4	7
F. 31-762*	16.15	12.87	79.69	20.98	174.62	3664	5	7
Co. 290	14.98	11.28	75.30	23.98	149.38	3582	6	7

*(Unreleased variety).

BILLEAUD TEST FIELD

Lintonia silt loam (1942-1947) 6 Years

C. P. 33-310	18.29	14.57	79.66	26.27	202.42	5318	1	11
C. P. 34-120	16.89	13.56	80.28	27.36	185.86	5085	2	11
C. P. 33-243	17.01	14.04	82.54	25.58	193.68	4954	3	11
C. P. 29-116	16.41	12.11	73.80	30.27	162.46	4918	4	11
Co. 290	16.16	12.16	75.25	30.03	163.26	4903	5	11

BILLEAUD TEST FIELD

Lintonia silt loam (1945-1947) 3 Years

C. P. 36-105	17.77	14.25	80.19	27.23	197.15	5368	1	4
C. P. 36-13	18.14	14.77	81.42	25.84	205.72	5316	2	4
C. P. 36-183	17.24	13.64	79.12	26.74	187.14	5004	3	4
C. P. 34-120	16.92	13.36	78.96	27.15	182.56	4957	4	4
F. 31-762*	18.30	14.94	81.64	23.01	208.54	4799	5	4
C. P. 33-310	17.64	13.58	76.98	25.44	186.18	4736	6	4
C. P. 33-243	17.61	14.44	82.47	22.20	200.28	4446	7	4
C. P. 29-116	16.82	12.74	75.74	25.46	172.54	4393	8	4
Co. 290	16.25	12.06	74.22	26.45	163.26	4318	9	4

*(Unreleased variety).

YOUNGSVILLE TEST FIELD

Olivier silt loam (1942-1947) 6 Years

C. P. 34-120	16.94	13.43	79.28	22.24	183.71	4086	1	12
C. P. 33-310	17.53	13.43	76.61	21.89	183.71	4021	2	12
C. P. 29-116	15.72	11.33	72.07	25.77	150.18	3870	3	12
Co. 290	15.67	11.86	75.69	21.98	158.50	3484	4	12

Olivier silt loam (1945-1947) 3 Years

C. P. 36-183	16.83	13.21	78.49	23.51	180.16	4236	1	5
C. P. 29-116	15.77	11.15	70.70	27.46	147.35	4046	2	5
F. 31-762*	17.52	14.08	80.37	19.16	194.36	3724	3	5
C. P. 33-310	17.86	13.64	76.37	19.31	167.14	3614	4	5
C. P. 36-13	17.29	13.96	80.74	17.84	192.36	3432	5	5
C. P. 34-120	17.29	13.63	78.83	18.12	186.98	3388	6	5
C. P. 36-105	17.09	13.09	76.59	17.10	178.14	3046	7	5
Co. 290	15.72	11.74	74.68	17.00	156.64	2663	8	5

*(Unreleased variety).

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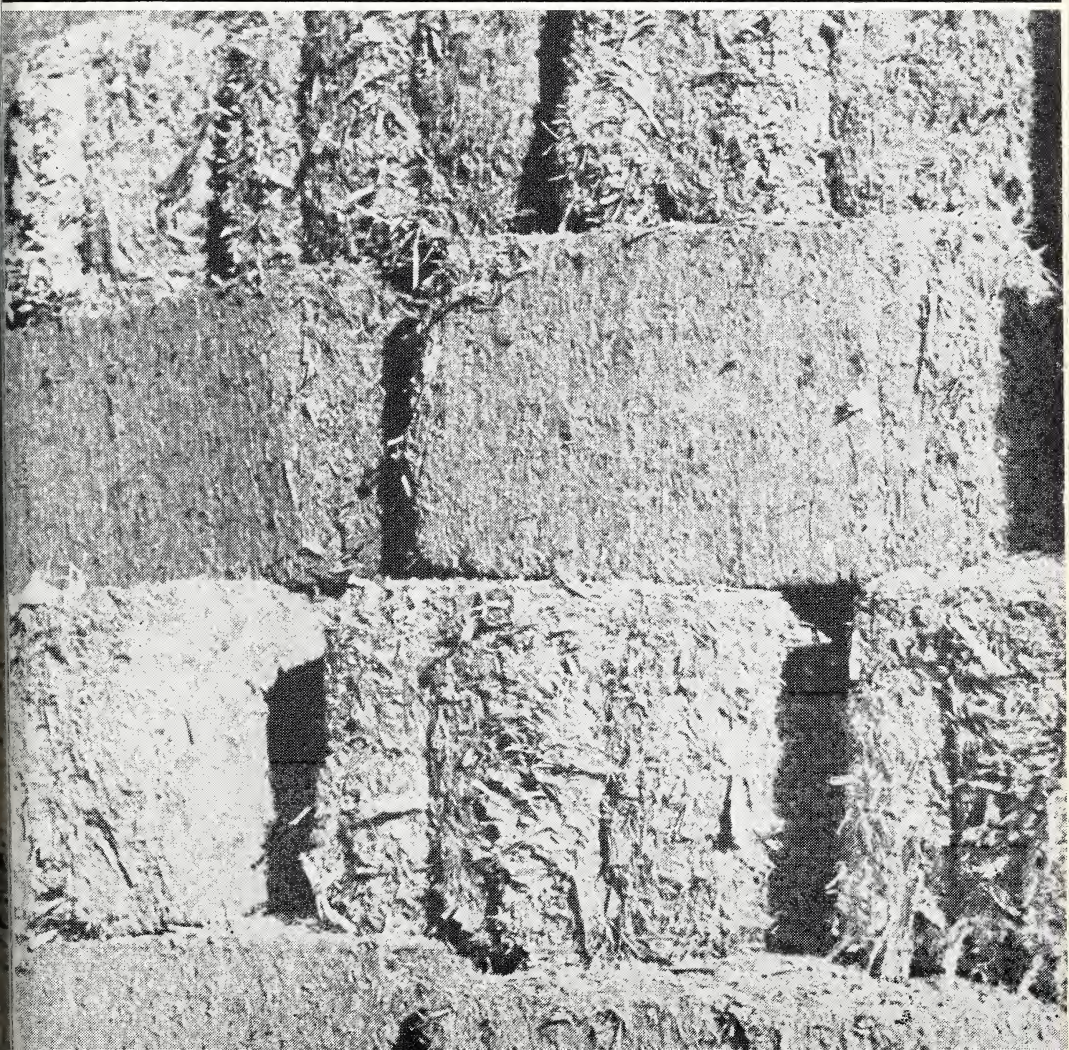
THE SUGAR BULLETIN

l as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., AUGUST 15, 1948 No. 22



THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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Dubourg Thibaut, Donaldsonville, La.
Spencer G. Todd, Franklin, La.
G. G. Trowbridge, Jr., Franklin, La.
Louis Wilbert, Plaquemine, La.

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IN WASHINGTON WITH C. J. BOURG

The New York Journal of Commerce usually reflects the New York export-import point of view on sugar. Therefore, the following article written by Charles F. McCarthy, which appeared in the July 23rd issue of the Journal of Commerce, is all the more significant. McCarthy has been reporting on sugar since the beginning of World War II and has always taken a broad point of view, although this is the first time that he has reflected so thoroughly the domestic producer's interest.

THE FOOD TRADE STANDPOINT

By Charles F. McCarthy

Sugar Outlook

The recent modest 3 percent rise in the price of refined sugar, induced by seasonal influences, has stirred up a bleat from the politicians, and more understandably from industrial sugar users, that sugar should be made more plentiful and prices brought down. The Department of Agriculture, super-sensitive to criticism on sugar policy, responded to the criticism with a re-allocation in sufficient volume to reverse, or at least halt, the upward market trend.

When the Sugar Act of 1948 restored the market to the quota system at the start of the year, after more than five years of war-time rationing, the price of raw sugar by Government edict was 5.32¢ and refined sugar, 8.40¢. A week ago, when the Government's sugar policy was criticized, the price of raw sugar was 5.75¢ and refined, 7.75¢. The market had moved up to these levels over a period of two months from 5.05¢ and 7.50¢, respectively.

Free Advice

Obviously these prices were well below what the Government was paying for the sugar it bought through 1947. Yet Senator Bridges, Republican of New Hampshire, as an example, felt them to be high enough to demand in a press statement that the Department of Agriculture take steps "to allow sugar to become more plentiful in the stores of the U. S. at reasonable prices." Sugar officials often get free advice such as the Senator has offered. Some of it is sound. Often they seek advice in sugar trade channels, as they did about 10 days ago. Since they are seeking advice, it may not be out of order here to make a few suggestions and advise the Department that it can do nothing better than to sit tight for a while, particularly if any one gets the urge to increase quotas.

What Happened

The officials won't have to strain around the tympanic membrane to recall that they were advised to make the initial quota this year 8,000,000 or 8,500,000 tons. Those quantities were suggested despite record distribution in the last half of last year. The arguments for 8,000,000 tons or better were that the population had increased which would support added consumption of 600,000 tons above pre-war. Also corn products which grabbed a big slice of sucrose business in the war years would be giving back about 200,000 tons. No one thought that possibly sugar habits had changed in the war years and these

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WAGE, PRICE HEARING BRIEF OF THE GROWERS-PROCESSOR COMMITTEE

The following brief was filed by W. F. Giles, Chairman of the Louisiana Grower-Processor Committee, at the Wage, Price Hearing held in Thibodaux on July 22nd, 1948.

My name is W. F. Giles of Adeline, Louisiana. I am a grower of sugar cane operating in the Louisiana cane sugar producing area.

I make this appearance as Chairman of the Louisiana Grower - Processor Committee, a committee composed of seven Louisiana growers and seven Louisiana processors, the membership of which committee was originally selected at state-wide meetings of these two branches of the Louisiana sugar industry. I am a grower-member of that committee.

It is and has at all times been the purpose of this committee to maintain a fair and equitable relationship between the Louisiana grower and Louisiana processors in the purchase of sugar cane. Consequently at hearings conducted in previous years, pursuant to the provisions of the Sugar Act of 1937, relative to fair and reasonable prices for sugar cane, this committee has made definite recommendations as to its views concerning sugar cane prices. I appear for that purpose at this hearing.

In recent years, as indicated by the records of the Fair Price Hearings conducted under the provisions of the Sugar Act of 1937, this committee and all Louisiana growers and processors have been concerned with the excess trash content of sugar cane delivered to the processor and the rather serious loss in the quantity of sugar recovered per ton of cane under the quantity recovered in prior years, and under the quantity theoretically recoverable. The Louisiana growers and processors, individually and through this committee, have with the assistance of their own technicians and well qualified advisors called in from public and private agencies attempted to solve these problems.

It is obvious excess trash and reduced sugar recoveries affect the prior relationship existing between growers and processors when cane was relatively free of trash and sugar recoveries were what may be termed normal. Thus far having been unable to remedy the causes of this change in relationship through the elimination of trash and the increasing of sugar recoveries, the question naturally has arisen as to what changes would be equitably justified in the price relationship between grower and processor to be fixed in the 1948 determination.

In 1947 this committee after much deliberation made certain recommendations to the Secretary of Agriculture including mandatory trash deductions and a proposal under which trash content in cane would have affected the price. These recommendations were subsequently retracted primarily because of the impossibility of precisely evaluating the effect of trash and further the rather dismal crop outlook resulting from drought and hurricane damage.

The committee has reviewed all data available to it in 1947 and has had submitted to it much additional data on trash and loss in sugar recoveries. After deliberate thought and study the committee has concluded that it is fair and equitable in issuing the 1948 determination that two changes be made in the determination as established and issued in 1947 and in prior years.

I. Mandatory Trash Deductions

Since the year 1943, based on recommendations of the Grower-Processor Committee, processors have been authorized to make deductions of the weight of trash in excess of 3%. This right, while not included in the determinations, has been authorized through administrative action of the Department. Some processors have made trash deductions and some have not. All grower and processor members of this

CROP NEWS BY PARISHES

from

COUNTY AGENTS

In spite of the fact that the weather conditions in the Louisiana sugar district have definitely improved during the month since our last reports, there is still evidence that the cane crop is suffering from insufficient rainfall in a number of localities. The growing season is rapidly being used up and it now appears doubtful that the crop on some farms will be able to catch up the growth lost, even if the season is ideal from now until the grinding campaign. No general rains have been experienced and the showers, while sufficient in some localities, have been inadequate in other sections. This condition is making the crop decidedly spotty.

St. Mary Parish. Only scattered showers had been experienced in St. Mary Parish up to August 4th, according to a report from P. J. deGravelles, but these have improved the crop considerably where they have occurred. Mr. deGravelles states that the prospective tonnage in his district now looks like about 16 tons of cane to the acre.

Lafourche Parish. Reporting from Lafourche Parish on August 4th, A. C. Moreau advised us that his district had also been favored with only scattered showers and that the cane crop, as a whole, had shown only slight improvement during the month. Mr. Moreau states that from Raceland down to Golden Meadow the rainfall has been good, but that no rain to speak of has fallen from Lafourche Crossing to the Raceland Church. This means, of course, that the crop is good and bad in Lafourche Parish. Mr. Moreau estimates the prospective cane tonnage at about 18 tons to the acre.

St. Landry Parish. From St. Landry Parish, Dalton Comeaux, who is the assistant county agent, states in a report dated August 3rd that only scattered showers have fallen in St. Landry Parish during the month since our last report. The cane crop has, consequently, shown only slight improvement.

Vermilion Parish. The news from Vermilion Parish is bad. J. D. Sobert, whose report is dated August 4th, states that only scattered showers have fallen in his district and that the cane crop has deteriorated. Conditions generally, he says, are as serious as they were last year. He estimates the prospective cane production in his district at only 8 tons to the acre.

St. Charles Parish. A brighter picture is painted by Mr. J. Melancon, Jr., in his August 4th report from St. Charles Parish. He states that the prospects of a good crop this year in his district are much brighter than were last season's prospects and that the cane crop has had ample rain during the past month. As a result of this the crop has improved considerably. Mr. Melancon estimates the cane tonnage in his district at from 15 to 18 tons to the acre.

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committee, as well as all growers and processors contacted, feel that trash deductions can be properly effective and uniformly fair and equitable only in the event such deductions are made mandatory by proper provision in the Fair Price Determination.

II. Price Adjustment Because of Recovery Losses

As stated by this committee in 1947, the Louisiana processors contend that the existence of excessive trash causes them serious losses, particularly in higher price for cane, lower yield or recovery of sugar, reduced milling capacity and higher transportation costs. There is no agreement among growers and processors as to the extent of these losses or how they may or should be evaluated. The most serious of these losses is in yield or recovery of sugar per ton of cane. It is agreed that excess trash does result in lower sugar

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WAGE, PRICE HEARING BRIEF OF THE LABOR COMMITTEE

The following brief was filed by E. W. McNeil, Chairman of the Labor Committee of the American Sugar Cane League, at the Wage, Price Hearing held in Thibodaux on July 22nd, 1948.

My name is E. W. McNeil, of Cinclare, Louisiana. I am associated with Harry L. Laws & Company, Inc., a grower and processor of sugar cane, operating in the Louisiana sugar cane area.

I am Chairman of the Labor Committee of the American Sugar Cane League, an organization composed of more than 90% of the Louisiana growers of sugar cane.

In determining fair and reasonable wage rates prior to the 1947 harvesting wage determination, it is our understanding the policy has been pursued of maintaining, as far as possible, the same relationship between wage rates and growers' income per ton of cane that existed in the three-year period 1938-40. This in most instances has been fair and equitable, and we feel should certainly not be abandoned, but deviated from only under exceptional circumstances when impelled to give some weight to other factors.

In appearing at the 1947 hearing, we reiterated our approval of the wage price relationship. However, even though any upward deviation in wage rates from this relationship would work a hardship on the sugar cane growers, we recommended because of the increased cost of living, that the 1947 harvesting wage rates and 1948 cultivating wage rates be determined by increasing the preceding years' rates by 12%, subject to the condition that such increased rates be revised should the price of sugar advance or recede significantly. This 12% increase was granted in the two determinations.

At the time of the 1947 hearing the price of raw sugar was 6.32 cents per pound. This price did not recede until the latter part of the pricing period of the 1947 crop, and, therefore, no revision of the 1947 harvesting rates was justified. However, at this point we desire to reiterate our protest previously made to the Director of the Sugar Branch in not revising the 1948 cultivating wage rates in view of a very significant decline in the price of raw sugar. This protest can best be incorporated in the record by reading a letter addressed by me, as Chairman of the Labor Committee, to Mr. Lawrence Myers, Director of the Sugar Branch Production and Marketing Administration of the Department of Agriculture under date May 21, 1948. The letter is as follows:

"May 21, 1948

"Mr. Lawrence Myers, Director
Sugar Branch,
Production and Marketing Administration,
U. S. Department of Agriculture,
Washington, D. C.

Dear Mr. Myers:

We write you to confirm the several discussions representatives of this organization have had with representatives of your branch with reference to the determination of fair and reasonable wage rates for persons employed in the production and cultivation of sugar cane in Louisiana during the calendar year 1948, which was issued on January 16, 1948.

At the public hearing held with reference to these wage rates at New Iberia, Louisiana, on July 26, 1947 the American Sugar Cane League appeared, through the writer as Chairman of its Labor Committee, representing the Louisiana producers of growers of sugar cane. We made certain recommendations as to the 1947 harvesting wage rates and the 1947 production and cultivating rates, cognizance of which was taken by the then Acting Secretary of Agriculture in his 'Statement of Bases and Considerations' issued with the Determination.

At the time of the hearing the price of raw sugar was 6.32 cents per pound. Considering the then price of sugar, and in view of the increase in cost of living, we recommended that the 1947 harvesting wages and 1948 cultivating wages be increased 12% over the 1946 harvesting wages and 1947 cultivating wages respectively, but subject to the condition that such increased rates be revised should the price of sugar advance or recede significantly. You will find at page 11 of the transcript of testimony taken at the New Iberia hearing, in making recommendations as to the 1948 cultivating wage determination, the writer in his representative capacity stated:

> 'This hearing also relates to the planting and cultivating wage rates during the calendar year 1948. It is impossible to anticipate at this time what return per ton of cane will be received from the 1948 crop. However, unless there is some signifiant change in the price of sugar prior to the issuance of this Determination, it appears proper that the same percentage increase should be here applied, subject to revision after issuance of the Determination if there is any significant change thereafter in the price of sugar.'

The 1948 production and cultivating wage determination and the Statement of Bases and Considerations issued in connection therewith, completely ignores the significant qualification to the recommendation of a 12% wage increase. Under paragraph (c) of the Statement of Bases and Considerations entitled 'Background', it is stated that considerations was given to our recommendation, but it is quite obvious consideration was given to only a portion of the recommendation.

As I have indicated above, the price of raw sugar on the date of the New Iberia hearing was 6.32 cents per pound. On January 16, 1948, the date of issuance of the Determination, the price was 5.67 cents per pound. We consider this a very significant decline in the price of raw sugar prior to the issuance of the Determination, but the Determination carries the full 12% wage increase. Further, the quoted price of raw sugar today is 5.12. This is even a more significant decline, but the Louisiana growers of sugar cane are paying the 12% wage increase.

We write this letter, not with the hope or expectation of any change in the 1948 production and cultivating wage Determination, as such change could serve no useful purpose at this late date. However, we do desire to place the Louisiana producers of sugar cane on record as making formal protest. We hope this protest will in some measure protect the Louisiana growers against a recurrence of the same situation in the future.

With best wishes, we are
Yours very truly,
AMERICAN SUGAR CANE LEAGUE
By E. W. McNeil
Chairman, Labor Committee."

My purpose in reading this letter is in order that the record may show the position of the Louisiana growers and, as indicated in the letter, to attempt to avoid a recurrence of the same situation in the future.

Although the price of sugar has recovered to some extent in recent weeks, it is today still approximately 57 points below the 6.32 level which existed at the time of our recommendation made in 1947. The December future market is less than today's spot quotation, and it appears to be recognized that the price of raw sugar during the 1948 pricing period will be well under the 6.32 price of last year.

Justice to the cane grower can be done and he permitted to net any fair portion of the return from a ton of sugar cane, only through the application of the historic wage price relationship. We have prepared a table indicating wage rates for each of the years 1938 to 1947, inclusive, and the value of a ton of sugar cane for each of these

years. This table projects the 1948 harvesting rates based on the wage price relationship, assuming a price of 5.60 for sugar, which is today's December future quotation, and a price of 24 cents per gallon of blackstrap molasses. We desire to point out that in converting the price of sugar to the value of a ton of standard sugar cane, we have applied the formula contained in the recommendations of the Louisiana Grower-Processor Committee to be made at this hearing with reference to the 1948 Fair Price Determination.

We offer and file the table in the record of this hearing and ask that it be given the proper mark of identification.

If our assumption as to the price of raw sugar and blackstrap molasses is correct, the projected rates indicated on the table are the fair and equitable rates which should apply. The grower can actually afford to pay more than these projected rates only if the value of a ton of standard sugar cane increases above the assumed level. The grower could pay with some hardship the 1947 rates, which included a cost of living adjustment, only if the return per ton of cane is as high as in 1947.

In spite of the above facts, we realize with today's cost of living it would be most difficult, if at all possible, to obtain labor at basic wage rates less than were paid during the 1947 harvesting season. The squeeze between increased cost to the grower and reduced return places the grower in an almost impossible position which could easily become absolutely impossible. The prices of all commodities have materially increased since 1947, and are still going upward. The price of sugar is materially below the price of 1947. The only real solution to the problem lies in a higher price for sugar comparable to the increase in cost of living index. The Secretary of Agriculture has the power under the Sugar Act to rectify this condition. He has taken steps in this direction through the reduction of consumption estimates. However, he must go much further before we have the same relationship between the price of sugar and the cost of living index that existed during the first ten months of 1947.

The Labor Committee under existing conditions finds it most difficult to make a recommendation. We are cognizant of and appreciate the position of our employees, but we cannot without fear of self destruction forget the facts I have just related. However, we realize we must state our position. Therefore, in an effort to do justice to wage earners and the growers, within the limits of our ability, we desire to make the following recommendations:

We recommend when the value of a ton of standard sugar cane, excluding conditional payments, is not above $7.00 and not below $6.34 that the wage rates to be paid in Louisiana for the harvesting of the 1948 crop of sugar cane, except the piece rates hereinafter specifically mentioned, be the same rates contained and provided in the 1947 determination. The above values per ton take into consideration and include the sugar value and the molasses bonus, both of which form a part of the price received by the grower.

The lower figure of the bracket is not computed on any yardstick. It would result from say, 5.75 cents raw sugar and 24 cents molasses. It is merely a figure stretched to the maximum, beyond which the grower must have relief. The upper figure of the bracket is the price received by the grower from the processor per ton of standard sugar cane from the 1947 crop.

Wage rates tied to and fluctuating continually with every change in price would not be satisfactory in Louisiana in the unanimous opinion of all growers contacted. We have, therefore, made the spread below the 1947 price for cane before reaching the breaking point as wide as possible. However, we realize some provision must be made for adjustments when the breaking point is reached. Therefore, we further recommend:

That for each 10 cents that the price per ton of standard sugar cane averages less than $6.34 for the two weeks

period immediately preceding the two weeks period during which the work is performed, there shall be a decrease in all wage rates in direct proportion to the decrease in the price per ton of standard sugar cane below $6.34, which decreased rates shall be applicable to all work performed during such two weeks work period. The two weeks' average price per ton of cane shall be computed from the two weeks' average price of 96° raw sugar, duty paid basis, and the two weeks average price of blackstrap molasses, on the Louisiana Sugar & Rice Exchange and the Cane Products Trade Association Exchange in the same manner as the price for sugar cane is computed under the determination of fair and reasonable prices for the 1948 crop of Louisiana sugar cane.

The recommendation just made is not to be taken as a proper and sound basis for determining wage rates under normal conditions or as a precedent, but is urged as a matter of expediency under trying and unusual economic conditions.

We desire to make comment on and offer special recommendations as to certain of the piece work rates which we feel are completely out of all reasonable relationship with time rates. This matter has been discussed at prior hearings and a slight adjustment was made in the 1946 determination. We refer to the rates for cutting cane, top and bottom, and the rates combining the cutting of top and bottom with other operations.

The 1947 rate, per 9-hour day, for cutting, topping, stripping, was $3.50 for males and $3.05 for females. The highest rate on a time basis was for operators of mechanical loaders and harvesters—$4.60 per 9-hour day. The tractor and truck driver rates was $4.25 per 9-hour day. To contrast with this, information available to us indicates that workers on a piece basis have earned as much as approximately $15.00 per 9-hour day cutting cane top and bottom. On the piece work basis it appears the average male worker, cutting cane top and bottom, will earn from $7.00 to $9.00 per 9-hour day. This average piece rate male worker, therefore earns an hourly wage of approximately 88 cents as compared with an hourly rate of 39 cents to the time worker under the 1947 determination, both workers performing the same operation.

It is true the piece rates should be so determined that the average piece rate worker can earn in an hour or during a 9-hour day more than the basic wage for comparable periods by the worker employed on a time basis. Otherwise all incentive is destroyed. However, without a fair relationship there results a complete disruption and demoralization of operations.

A reduction of 25 cents per ton below the 1947 harvesting rate for cutting cane, top and bottom, as to large and small barrel varieties would do much to mitigate this inequality. A similar reduction should be made in piece rates combining these operations with other operations. Such reduction results in the following piece rates which are recommended for the 1948 crop:

Operation	Rate per Ton Large Barrel varieties	Rate per Ton Small Barrel varieties
(1) Cutting top and bottom and stripping	$1.25	$1.55
(2) Cutting top and bottom	.75	.95
(3) Loading	.44	.53
(4) Cutting top and bottom, stripping and loading	1.69	2.08
(5) Cutting top and bottom and loading	1.19	1.48

Piece rates should be subject to the same adjustments previously recommended for time rates, if the price per ton of standard sugar cane drops below the 6.34 level.

With further reference to piece rates, we desire to mention two varieties which are large barrel canes and should be added to the large barrel variety classification. These varieties are C. P. 36-105 and C. P. 29-120.

This hearing also relates to the 1949

planting and cultivating wage determination. Normally the same wage—price relationship I have previously mentioned should be maintained. However, for the same reasons and under the identical compulsion which has provoked our recommendations as to 1948 harvesting wage rates, we recommend that the 1949 planting and cultivating wages be determined in the same manner recommended for the 1948 harvesting wages. This would mean the same wage rates in 1949 as are effective in 1948, with the same proportionate adjustments when the value of a ton of standard sugar cane drops below the $6.34 level. Here, as in the fair price determination, if the Director of the Sugar Branch finds that for any week or weeks the weekly averages of the two New Orleans exchanges do not reflect the true market value of sugar or molasses, because of inadequate volume or other factors, the Director should designate the weekly price to be effective.

The notice of hearing states the Secretary of Agriculture is considering a change in the present practice of issuing separate determinations for harvesting wages and planting and cultivating wages, and consideration is being given to the issuance of a single determination concerning all wage rates applicable to production, cultivation and harvesting. This proposal, we believe, meets the unanimous objection of all Louisiana sugar cane growers. Certainly it is vigorously objected to by every grower contacted by this committee.

In the first place, after giving exhaustive thought to the question, we cannot think of one good reason for the change. In areas where there is an over-lapping of crops and where there is little stoppage or interruption of cultivating operations on succeeding crops, there may be some reason for a combined determination. Further, if all operations in the making of a single crop of Louisiana sugar cane followed the normal agricultural rotation of planting and cultivation followed by harvesting, without interruption, there may be some justification.

However, such is not true in Louisiana. The planting period or season for a succeeding year's crop is normally the late summer and early fall. This is immediately followed by the harvesting of the current year's crop. There is practically a complete cessation of operations of any nature during several months, followed by intensive cultivation of the crop planted in the preceding year. The cultivation of this crop is followed not long after by preparation for planting of the next year's crop. Under this order of work and operations, regulated solely by nature it is not logical or proper to combine determinations. The practice has existed under the Sugar Act of 1937 since its effective date, of issuing separate determinations, with the planting and cultivating determination issued during the early part of the calendar year and applicable to cultivating and planting operations during the then current calendar year. This practice should be continued.

In order that the determination may reflect as closely as possible conditions existing during the period of work affected by the determination, it is well that the determination be issued not too far in advance of the period affected. The major portion of the cultivating work in Louisiana is performed each year from March to July. To combine the determinations would mean that the cultivating rates would be fixed no later than October, since the determination must include the harvesting rates and apply primarily and largely to a period commencing the following March covering a crop the revenues from which are not received until a period commencing with October of the next year. It is difficult, at least, to anticipate economic conditions in establishing wage rates, but this would result in a difficult situation being greatly worsened. Issuing the cultivating determination in January brings the period to which the determination is largely applicable much nearer the issue date of the determination, and permits the taking of cognizance of conditions which may develop at any time prior to the date of issuance of the determination.

We do not understand that the proposal to issue one determination rather than two carries with it the elimination of the differential existing between harvesting rates and planting and cultivating rates. Certainly, this would also be most objectionable. Historically, prior to the era of the Sugar Act and wage determinations issued thereunder, there has always been a difference between planting and cultivating wages and harvesting wages. This difference was probably due in large measure to the necessity during the harvesting and processing season of paying a higher wage in order to attract seasonal workers. This difference has been recognized in all prior wage determinations. It should and must be maintained. This difference in rates affords another reason why separate determinations should be issued for the two periods.

Although not stated in the notice of hearing, we understand the Secretary is considering holding future hearings as early as May of each year. Such change would also be completely without reason and very objectionable. If hearings, which provide the cane grower with his only opportunity to be heard on matters which so vitally affect him, are to be conducted so far in advance of the period during which the determinations are effective, it appears that such hearings will become meaningless.

We therefore recommend that wage rate hearings conducted under the Sugar Act be held not earlier than the 15th day of July of each year, which is in accord with prior practices.

Respectfully submitted:

E. W. McNEIL,
Chairman Labor Committee
American Sugar Cane League

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GROWER-PROCESSOR BRIEF

(Continued from Page 373)

recovery, but at this time, at least, the extent of such loss attributable to trash cannot be accurately determined.

It is recognized that the loss in recovery in recent years has not resulted from trash alone. There are undoubtedly other factors. Based on available data and studies these other factors appear to include to some extent, the delivery and processing of stale cane, high fiber content of new varieties of cane and heavy rains during the grinding season. None of these can be evaluated precisely with available data.

However, one fact is conclusive, and regardless of its cause or causes can be evaluated. As above indicated, during the past several years the average quantity of sugar recovered per ton of cane has been appreciably less than that recovered in prior years, at comparable sucrose levels, when the basic price relationship between grower and processor was established, and likewise appreciably less than the quantities indicated on the existing commercially recoverable sugar table now in use and which is considered normal. From the 1947 crop the difference under the figure indicated by the table was 16.88 pounds per ton and from the 1946 crop 13.77 pounds, based on gross cane delivered.

Under the fair price determinations issued in prior years, the basic price is determined on sucrose levels. With an appreciable decrease in recovery of sugar, at comparable sucrose levels, the processor retains a smaller portion of the value of a ton of cane and the grower receives a larger portion than during years of normal recovery.

Therefore, the committee has unanimously agreed that an adjustment should be made in the basic price to be established for the 1948 crop. The amount of this adjustment was debated at length, and finally, as the result of compromise, it was agreed that the basic price should be adjusted by multiplying the price by the factor, .9825, which results in a decrease of 1.75%

under the basic price established in prior determinations. This adjustment is conditioned on the recovery of sugar from the 1948 crop being less than considered normal, and, if the recovery equals or exceeds the quantity at this time considered normally recoverable, at corresponding sucrose levels, the amount of the adjustment should be paid to the grower.

This agreement and recommendation is not to be taken as a precedent or as establishing a proper relationship under normal conditions. Further, the amount of this adjusting factor is not based on any formula or computation of figures.

III. Recommendations

On behalf of the Grower-Processor Committee, I, therefore, now recommend that the determination of fair and reasonable prices for the 1948 crop of Louisiana sugar cane be similar to the 1947 determination, with the following modifications and amendments:

1. That paragraph (a) of the Determination entitled "Basic Price" be preceded by the following clause:

"Subject to the adjustment hereinafter provided in paragraph (b)".

2. That immediately following paragraph (a), there be added a new paragraph (b) to read substantially as follows:

"The basic price hereinabove provided in paragraph (a), including the reductions and increases contained in sub-paragraph (i) and (ii) shall be adjusted by multiplying the price by the factor .9825".

3. That there be added a new paragraph to the Determination to read substantially as follows:

"If from the 1948 crop of Louisiana sugar cane, delivered by all Louisiana producers, the state average number of pounds of 96° raw sugar recovered per ton of sugar cane, excluding the weight of trash, in excess of 3%, is equal to or exceeds the number of pounds of such sugar recoverable therefrom, at corresponding sucrose levels, according to the commercially recoverable sugar table hereinafter set out, there shall be an additional payment per ton of standard sugar cane equal to the difference between the basic price set out in paragraph (a) adjusted as provided in paragraph (b), and the basic price without such adjustment. The commercially recoverable sugar table above referred to is as follows:

% Sucrose Normal Juice	Cwt. Sugar per ton Cane
7.0	.744
7.5	.825
8.0	.906
8.5	.990
9.0	1.074
9.5	1.174
10.0	1.273
10.5	1.362
11.0	1.450
11.5	1.529
12.0	1.607
12.5	1.687
13.0	1.767
13.5	1.849
14.0	1.930
14.5	2.013
15.0	2.095
15.5	2.179
16.0	2.262
16.5	2.347
17.0	2.431
17.5	2.517
18.0	2.603

—Intervening Points in Proportion—

4. That under that portion of the Determination entitled "General", there be added a new provision to read substantially as follows:

"From each ton of Louisiana sugar cane accepted for processing the trash content of which is in excess of 3% of the gross weight thereof, a deduction of all such excess shall be made."

5. That the pricing period to be used in determining season average price for the 1948 crop be comparable to the

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New Orleans 13, La.

period as provided in the 1947 determination; that is, beginning with October 8, 1948 (or the Friday within the first marketing week of actual trading) and ending January 31, 1949.

The commercially recoverable sugar table set out in recommendation No. 3 above, is a table prepared by first arriving at the yield or recovery figure corresponding to each value of sucrose per cent in normal juice for each of the three years 1933, 1936 and 1937, which years are considered normal, and then averaging these figures for the three-year period. The actual recovery or yield of sugar for each year since 1937 up until the past three or four years has been almost identical with the applicable figure contained in the above table, at corresponding sucrose levels.

In addition to the above recommendations, the committee specifically requests that all provisions of the 1948 Determination be written in full, rather than being incorporated therein by reference to a determination issued in a prior year.

We cannot close this presentation of our views and recommendations without pointing out with all of the force and vigor at our command the condition which today makes it so difficult for the growers and processors to arrive at any agreement as to a division of the value of a ton of sugar cane. This condition is that with the present price of sugar so low, when compared with the price of other commodities, with operating costs and with the cost of living, neither grower nor processor, regardless of the division, can receive a fair return. Any adjustment in the price of sugar cane merely assist in a limited way the party who appears to be in the more unfortunate position of the two.

Section 201 of the Sugar Act of 1948 directs the Secretary of Agriculture, in making his estimate of consumption requirements, to take into consideration, as one of the factors, the maintenance of the same relationship between the price at wholesale for refined sugar and the general cost of living in the United States, as reflected by the Consumer Price Index, which existed during 1947 prior to the termination of price control. This was the first ten months of 1947.

It is our understanding, the average Consumer Price Index for the period provided in the Sugar Act was 157.81 and the average wholesale price of refined sugar was 8.267 cents per pound. The Index for May 1948 is 170.5. The Index is undoubtedly higher today. If the relationship provided in the Sugar Act were maintained, the price of refined sugar, based on the May Index, would be 8.93 cents per pound, which is 1.18 cents per pound more than the actual price of 7.75 cents.

Applying a differential of from about 2 cents to about 2.15 cents per pound between the price of raw sugar and the wholesale price of refined sugar, the price of raw sugar today should be from 6.78 cents to 6.92 cents per pound, instead of today's actual price of 5.75 cents for raw sugar.

After war time controls were lifted the prices of other commodities sharply increased. At the same time the price of sugar sharply decreased. Although there has been some little recovery in the price of sugar in recent weeks, the price of raw sugar is today 57 points, or more than one-half cent per pound less than the price at the time controls were lifted.

We are advised, as a result of higher production costs and lower sugar price, sugar beet acreage for the United States as a whole shows a decrease of 14% under last year. In some states the decrease exceeds 30%. No such adjustments are possible, in the sugar cane area. We are therefore faced with serious losses.

The Secretary of Agriculture in twice reducing the estimate of consumption

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requirements has taken a step in the proper and legal direction. However, today's sugar market indicates conclusively that additional adjustments are required to maintain the domestic sugar industry. The Congress in enacting the Sugar Act of 1948 set the standard or relationship to be maintained. Further, it places in the Secretary of Agriculture the responsibility to see that the standard or relationship contemplated by the law is maintained. We do not ask any advantage over others. We merely ask for some semblance of equality, and in all fairness that the Secretary of Agriculture exercise the legal prerogatives of his office to remedy a distressing and inequitable situation and carry out the purpose and intent of the mandate of Congress. Based on his past actions, which have proven beneficial, we believe he will do so.

Respectfully submitted:
W. F. GILES,
Chairman
Louisiana Grower-Processor
Committee

IN WASHINGTON

(Continued from Page 371)

things might not happen. As it turned out, officials fortunately did not take the advice and set an 8,500,000 ton quota. But they started on the high side with 7,800,000 tons. It is history now that this quota had to be reduced twice to 7,000,000 tons to prevent the market from dropping through the bulkhead. Officials must be as cautious in curbing severe declines, as in guiding against a run-away market, for the Sugar Act provides that the Secretary of Agriculture "shall protect the welfare of the domestic sugar industry" and "shall take into consideration the relationship between price for refined sugar and the general cost of living * * * prior to the termination of price control of sugar." (Price controls are still in operation in a limited way through the beet support program).

Squeeze Not In Sight

Now because of the modest price recovery, officials are being advised to

increase quotas on the basis that a "squeeze" in raw sugar might develop later this year. Available figures do not indicate the prospect of a squeeze.

In the first place from the record distribution in the last half of last year, it is estimated than 200,000 tons more than normal were consumed from invisibles this year. Second, at the start of the year, refiners had raw and refined stocks of 632,000 tons. With one exception, that was more than they had in over a decade, and compares with an average of 490,000 tons for the pre-war years (1935-39). Just by cutting back this stock at the year-end to "normal" nearly 150,000 tons more could be made available for distribution. Third, and this is a point that is being overlooked, refiners, as in the pre-war years could reduce their "quota" year-end stock another 100,000 tons by replacing with 100,000 tons of "excess quota" sugar which could be melted and bonded for distribution on January 1, 1949. Sugar distribution, thus, could rise to 7,250,000 tons this year and sugar use to 7,450,000 tons, and no additional raw supplies would be required. Distribution last year was 7,485,276 tons.

In the first six months of this year, sugar distribution totaled 3,250,000 tons or 46½ percent of the 7,000,000 tons quota. In the last half, distribution would have to amount to 3,751,000 tons or 53½ percent. Weekly, that is an average of 144,000 tons against 125,000 in the first half. The seasonal factor has pushed the rate up to better than 175,000 tons currently but the last quarter rate is considerably less and in December deliveries fall off sharply.

Refiners' Stock

To view supplies from another angle, this is the outlook:

THOMSON
The complete line of cane field power farming equipment
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Thibodaux, Louisiana

Raw sugar available to the refiners from offshore areas amounts to 4,208,-353 tons for the year. Entered in the first half were 2,155,879 tons.

On July 1, refiners had raw stocks of 316,000 tons. They have a balance to come of 2,052,000 tons from the offshore areas and 200,000 tons from mainland cane areas, or a total of 2,568,000 tons available. That should be enough unless something untoward develops.

If the Department of Agriculture sees fit to take advice, it will ignore demands from Senators and others who, although their motives are unquestioned, lack the seasoned views of market analysis. They will do much better to listen to the analysts, watch the weather from now till October and note its effect on demand. Then will be time enough to lift quotas if a change is indicated or to re-allocate Hawaiian sugar supplies, making them available to refiners on the east coast and preventing any possible dislocation in supplies.

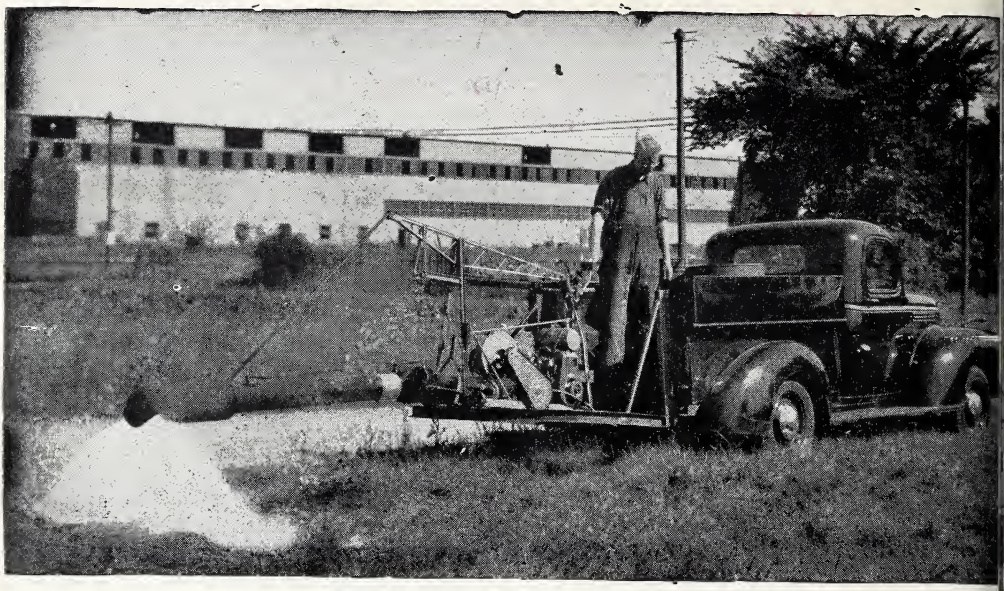
If the Department gets itchy or touchy when criticized and seeks to appease the critics with a quota increase before then, the sugar market may well take another war to halt. With the present allotment of 7,000,000 tons, the market will have a hard enough time standing on its feet.

St. Charles Parish Field Tour August, 20th.

The farmers of St. Charles Parish will hold a Field Tour on August 20th to inspect the sugarcane and corn fields in that Parish. The tour will begin at 1:30 P.M. at Luling, Louisiana, and is scheduled to end about 4 P.M. at Killona. Cane and corn demonstrations will be observed on the farms of E. A. Dufresne, Joseph Champagne, the Waterford Plantation, and the Landeche Brothers' properties.

The tour will be under the supervision of A. J. Melancon, Jr., county agent of St. Charles Parish. Everybody is welcome.

WOOLERY JUNIOR WEED BURNERS



The above picture shows the Model "A" mounted on circular track which, in turn, is bolted to truck body floor for straight-away burning. When so mounted the burner unit can be swung through an arc of 180 degrees by the operator. The lower picture with the same mounting shows the burned set at an angle with a special burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a dense, high velocity, intensely hot flame which sears green vegetation quickly. Under average conditions the first trip can be made at about 8 m.p.h. and the second trip, which should be made from 2 to 10 days later after the sun has dried the vegetation, the speed may be much faster—10 to 15 m.p.h.

The Model "A" burning a swath 5 feet wide at 8 m.p.h. consumes 8 gallons of fuel oil per mile. At 5c per gallon the cost would be 40c. Burning one acre at the same speed consumes 13 gallons of fuel oil; at 5c per gallon the cost would be 65c.

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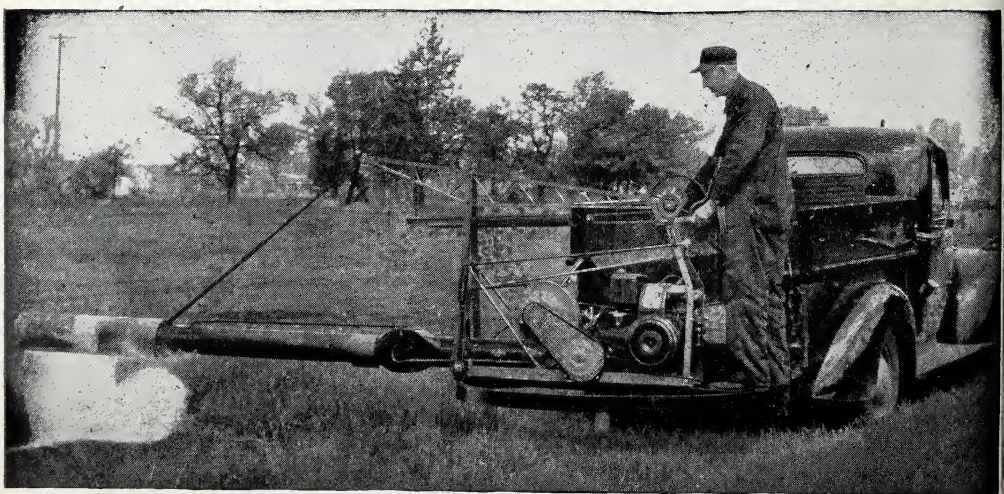

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Librarian Coates Chemical Lab.
Louisiana State University.
University, La.

THE SUGAR BULLETIN

d as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

26 NEW ORLEANS, LA., SEPTEMBER 1, 1948 No. 23

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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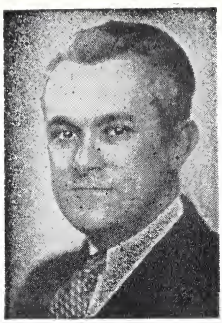
IN WASHINGTON WITH C. J. BOURG



The Sugar Branch, USDA, has inaugurated the publication entitled "SUGAR REPORTS". The contents of the first and second issues present in brief and concise form discussions of most subjects with which the Sugar Branch is concerned in the administration of the Sugar Act. This publication contains a great many statistical tables and charts of interest to the sugar industry and it certainly should prove a valuable addition to the files and libraries of any sugar office.

We present excerpts from "SUGAR REPORTS" covering 1948 sugar prices and sugar acreages as samples of the discussions and information included in this new publication.

1948 Sugar Prices

June produced the year's heaviest monthly distribution of sugar and the first advance of the year in refined sugar prices. Distribution by primary distributors for June was over 800,000 short tons, raw value, and the price advance coming at the end of June brought wholesale prices for refined cane sugar back to the $7.75 level which prevailed from February 9 to May 13. Wholesale prices were still 65 cents under the prices which prevailed in early January. Index numbers of wholesale sugar prices based on 1935-39 averages were below those of sugar at retail and the indexes for prices of all foods and of prices paid and prices received by farmers, and farm wage rates. Retail prices on June 15 were at an average 9.2 cent level, 1/5 cent less than in March and April and 7/10 of a cent lower than in January 1948. The indexes of growers' estimated income from sugar beets and sugarcane during the first part of the year indicated lower returns than for 1947.

On July 12, announcement was made of the proration of an additional 175,000 short tons, raw value, of sugar quota to Puerto Rico and Cuba. This proration was made when it was determined that Hawaii would not be able, by 75,000 tons, to market its quota and that marketings from the mainland cane sugar area could be expected to fall 100,000 tons short of its current quota. Heavy trading in the No. 5 (domestic) futures contract occurred during the week ended July 16 and prices declined 6 to 13 points. World contract futures during the same week rose 1 to 3 points.

Temporary shortages of sugar existed in some eastern areas of the country due to the fact that several refineries had been closed because of labor difficulties. With three east coast refineries closed by strikes for over 3 months, supplies of refined sugar in the respective trade areas became quite depleted. Recently, however, these refineries reopened, although one continues to experience some labor difficulties. Inability of consumers to find the kind and quantity of sugar they want probably will disappear as soon as distribution pipelines in these several areas become filled again.

With the recent recovery of 25 cents per 100 pounds in wholesale prices of refined sugar, most refiners and beet processors took contracts for future delivery within 30 days at the previous lower prices. Average retail prices, ac-

(Continued on page 395)

RESUME OF RESULTS OF SUGARCANE VARIETY TESTS IN LOUISIANA DURING 1947

By George Arceneaux, Senior Agronomist, Leo P. Hebert, Assistant Agronomist, and Louis C. Mayeux, Jr., Assistant Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

Field trials of sugarcane varieties were conducted during 1947 as per plans followed in previous years. Important commercial varieties and promising unreleased seedlings were tested at 8 stations covering representative assortment of Louisiana soils on which sugarcane is grown.

Weather Conditions

Weather conditions under which the 1947 crop was produced and harvested were among the worst in many years. Abnormally low temperatures during February and March tended greatly to delay growth. Rainfall during the period June to September, inclusive, was critically low. Normal rainfall expectancy over that period for the various test stations ranges from 23.19 to 29.40 inches depending on the locality. Total for the 4 months in 1947 as reported from these stations ranged from 11.03 inches at Erath to 23.00 inches at Clovelly and averaged approximately 68% of normal. Frequent rains during October, November and December greatly interfered with harvest operations. During that period a total rainfall of 26.19 inches was recorded at the Houma Station as compared with a normal expectancy of 12.64 inches. More or less similar conditions prevailed throughout the District.

Due to abnormally low temperatures during February and March and to abnormal drouth conditions during the 1947 growing season, yields of cane and sugar per acre were far below averages maintained in previous years. Also, varieties of ordinarily better-than-average vigor such as Co. 290, C.P. 34/120 and C.P. 29/116 did not show their customary superiority in yield of cane over the less productive ones. This was especially true of C.P. 34/120. Lack of sufficient moisture during the growing season could have contributed materially toward lessening the difference in field performance between high and low yielding varieties and it is possible that under more nearly normal conditions something like previously maintained yield relationships might be restored. As shown in a previous report, however, relative yields from Co. 290 and certain other varieties have tended definitely downward during recent years and this factor may have contributed materially toward the observed change in yield relationship.

Tests on Light Soils

C.P. 34/120

In the report summarizing results of sugarcane variety tests during 1946, it was pointed out that C.P. 34/120 had given evidence of a decline in yield as compared with some of the competitive varieties. Results obtained during 1947 tend to support this observation. In the average of plant cane, first and second stubble tests, C.P. 34/120 was more than 200 pounds below C.P. 29/120 in indicated yield of sugar per acre. This is a position far below that maintained by C.P. 34/120 prior to 1946, and while the evidence at this time does not justify widespread condemnation of the variety it is felt that continued caution is definitely indicated. It is recommended that future plantings of C.P. 34/120 be confined to the month of August wherever summer planting has proved satisfactory. The planting of it later than November 1 should by all means be avoided because of danger of stand failure from red rot.

C.P. 36/105

Results obtained with C.P. 36/105 in tests during 1947 were extremely favorable. In the average of plant cane,

(Continued on page 396)

STUDIES OF SOME PRACTICAL MEANS OF INCREASING THE GERMINATION RATE OF SUGARCANE UNDER LOUISIANA CONDITIONS

By George Arceneaux, Senior Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

(Abstract of Report to Contact Committee of The American Sugar Cane League)

In Louisiana it is customary to plant sugarcane at the rate of two "running stalks" and a slight lap. The actual weight of seed cane per acre commonly ranges from 2 to 3½ tons, trash free, depending on stalk diameter. Under ordinary conditions less than 30 percent of the viable eyes will germinate, thus suggesting the possibility of important savings from improvements in planting procedure to increase the rate of germination.

In seeding a field of sugarcane the first consideration is to secure the germination of mother shoots in sufficient numbers and so distributed that advantageous placement of the optimum number of stalks may be secured through suckering. Essentially this means the avoidance of long gaps. Under Louisiana conditions and in other temperate-zone regions, where the production of a sugarcane crop is largely a race against time, there is the additional requirements that the total complement of shoots be established at the earliest possible moment in the spring to insure maximum growth and sugar content.

Date of Planting Tests

Studies of time of planting during recent years have shown that a marked increase in rate of germination may be obtained by planting well in advance of the customary fall period. Planting during early August commonly gives from 40 to 50 percent germination. This practice has the additional advantage that many suckers established prior to winter are ready to resume growth in the early spring. Therefore average age of the crop at harvest is older than in the case of fall-planted cane. This difference is ordinarily reflected in a marked advantage in sucrose content in favor of the early planted cane. In extensive tests conducted at the Houma Station during the past 16 years the plant cane crop from early August planting has averaged approximately 14 pounds of sugar per ton of cane higher than obtained from early October planting.

Establishing a plant cane crop under Louisiana conditions is greatly complicated by the problem of overwintering the young plants. The shoots should not only survive the winter in the largest possible numbers but in addition should be ready to resume vigorous growth at the onset of spring. Results of studies have shown that winter survival and prompt resumption of vigorous growth in the spring are both favored by plentiful supplies of stored nutrients in seed pieces and in surviving tissues of young plants. Germination and early growth of sugarcane is accompanied by a heavy withdrawal of stored nutrients from seed pieces. In the case of sugarcane planted during early August the Brix and purity of the juice in seed pieces reach their lowest values about the middle of September following which there is a gradual rise in Brix and purity until the leaves and exposed stem growth are killed back by a freeze. Ordinarily, Brix and percent sucrose reach fairly high levels before winter. In addition, protected new tissues surviving the winter supply the spring growth with plentiful quantities of stored nutrients.

In the case of plantings made during October or November the seed cane ordinarily shows a relatively high concentration of nutrients to begin with,

(Continued on page 393)

1948 PROPORTIONATE SHARES

PRODUCTION AND MARKETING ADMINISTRATION

(Sugar Branch)

Part 802—Sugar Determinations

Proportionate Shares for Farms in Domestic Beet, Mainland Cane, Hawaiian, and Virgin Island Sugar Producing Areas for 1948 Crop

Pursuant to the provisions of section 302 of the Sugar Act of 1948, the following determination is hereby issued:

802.3 Proportionate shares for farms in the domestic beet, Mainland cane, Hawaiian and Virgin Islands areas (a) Farm proportionate shares. The proportionate share for the 1948 crop for each farm shall be as follows:

(1) In the domestic beet sugar area, the number of acres of sugar beets planted thereon for the production of sugar beets to be marketed (or processed by the producer) for the extraction of sugar or liquid sugar during the 1948 crop season;

(2) In the Mainland cane sugar area, the number of acres planted thereon for the production of sugarcane to be marketed (or processed by the producer) for the extraction of sugar or liquid sugar during the 1948 crop season;

(3) In Hawaii, the amount of sugar, raw value, commercially recoverable from sugarcane grown thereon and marketed (or processed by the producer) for the extraction of sugar or liquid sugar during the calendar year 1948; and

(4) In the Virgin Islands, the amount of sugar, raw value, commercially recoverable from sugarcane grown thereon and marketed (or processed by the producer) for the extraction of sugar or liquid sugar during the 1948 crop season.

(b) Share tenant, share cropper and adherent planter protection. Notwithstanding the establishment of a proportionate share for any farm under paragraph (a) of this section, eligibility for payment of any producer of sugarcane shall be subject to the following conditions:

(1) That the number of share tenants, share croppers or adherent planters on any sugarcane farm shall not be reduced below the number on such farm during the previous crop year, unless such reduction is approved by the respective State or Insular representative of the Production and Marketing Administration; and

(2) That such producer shall not have entered into any leasing or cropping agreement for the purpose of diverting to himself or other producer any payment to which share tenants, share croppers or adherent planters would be entitled if their leasing or cropping agreements for the previous crop year were in effect.

Statement of Bases and Considerations

Requirements of the Sugar Act. Section 302 of the act provides that the amount of sugar with respect to which payment may be made shall be the amount of sugar (raw value) commercially recoverable from the sugar beets or sugarcane grown on a farm and marketed (or processed) for sugar or liquid sugar not in excess of the proportionate share established for the farm. Such proportionate share shall be the farm's share of the quantity of sugar beets or sugarcane required to be processed to enable the producing area to meet the quota (and provide a normal carry-over inventory) estimated for the calendar year during which the larger part of the sugar from such crop normally would be marketed.

The act also provides that the Secretary shall, insofar as practicable, protect the interests of producers who are share tenants, adherent planters or share croppers.

Situation in the various domestic sugar areas. In the beet sugar area, sugar from each crop is normally marketed during two calendar years, with larger marketings in the year following the beginning of harvest. Thus, the carry-over from any crop into the fol-

(Continued on page 392)

Mr. Frank Leon Barker Dies

Mr. Frank Leon Barker, Executive Committee member and Secretary of the American Sugar Cane League, died on August 23d at his home on Clotilda plantation in Lafourche Parish after an illness of about four months. In the set of resolutions published below the sentiments of his associates on the League's Executive Committee are expressed and their grief at his untimely death at 57 is set forth. There is no need to repeat them here.

As all other men, Mr. Barker had his part to play in this life and he played it well. He had his duties to perform and he performed them conscientiously. He had his obligations toward his fellow men to discharge and he discharged them cheerfully. He had his blessings to enjoy and he enjoyed them happily. He had his sufferings to endure and he endured them courageously. He had his God to worship and he worshipped Him humbly. His friends were legion and his death has saddened them.

More than this cannot be said of any man.

—o—

RESOLUTION

The following resolutions were adopted by the Executive Committee of the American Sugar Cane League at their regular monthly meeting held August 25th, 1948.

WHEREAS—On Monday, August 23d, 1948, death took from among us Mr. Frank L. Barker who was an outstanding member of the Executive Committee of the American Sugar Cane League as well as the League's Secretary and its former Treasurer for many years, and

WHEREAS—Mr. Barker served actively on the League's Executive Committee in behalf of the sugar industry of Louisiana for more than a quarter of a century and was an officer of the League in various capacities during all of that time, being Treasurer for no less than twenty years, a member of the Executive Committee for almost 26 years and Chairman of the Finance Committee for 25 years, and

WHEREAS—He was a man of extraordinary ability who showed determination and courage and persistence in championing what he believed to be right and a man who exercised great influence in shaping the League's policies and the course of its affairs and thus contributed greatly to the growth and prestige of the organization during his long connection with it and

WHEREAS—Mr. Barker liberally donated his valuable time toward the advancement of the League's affairs and was one of the most generous of the League's members in this respect, responding always willingly when his presence would further some purpose beneficial to the sugar industry of Louisiana and often doing so at a serious personal inconvenience and

WHEREAS—For all these things, and many others too numerous to mention we all admired and respected him and held him in high and affectionate regard and appreciated keenly the value of his generous sacrifices in behalf of the sugar industry of Louisiana, therefore be it

RESOLVED—That we now publicly declare, in behalf of the sugar industry of Louisiana, the deep indebtedness of that industry to Mr. Frank L. Barker whose untimely death at the age of 57 has deprived it of one of its ablest, strongest, most competent and most successful defenders and be it further

RESOLVED—That a copy of this preamble and resolutions be spread upon the minutes of this organization and that a copy be sent to his family with a suitable letter of transmission in which we shall express our sympathy for them in their great and irreparable loss.

PROPORTIONATE SHARES

(Continued from page 390)

lowing calendar year may be a relatively high proportion of the crop and still not be regarded as excessive when compared with the quota for the calendar year ahead. The January 1, 1949 "effective" inventory for the beet sugar area will depend upon the size of the 1948 crop and the quantity of that crop which is marketed in 1948. (The term "effective inventory" as used herein, means the actual carry-over of sugar on January 1, plus the estimated quantity of sugar to be produced after January 1 from the crop of the preceding year.) The January 1, 1948, effective inventory was about 1,500,000 tons. The 1948 quota of 1,847,738 tons will thus permit the marketing of about 350,000 tons of new crop sugar in 1948. The March 19 report of the Bureau of Agricultural Economics on "Prospective Plantings for 1948" indicated that farmers intended to plant a 6.6 percent smaller acreage to sugar beets in 1948 than they did in 1947, and that if 10-year (1937-46) average yields per acre are obtained in 1948 the production of sugar beets will be 12.2 percent less than that of 1947. Current industry reports indicate that actual plantings probably are even smaller than estimated earlier. It is evident, therefore, that production of beet sugar from the 1948 crop will be considerably less than last year's crop of 1,883,000 short tons, and also well below the base quota of 1,800,000 tons provided in the Sugar Act. Since the industry is permitted to market 350,000 tons of 1948 crop sugar prior to January 1, 1948, it is evident that its carry-over as of that date will not be excessive in comparison with such base quota.

As in the case of the beet sugar area, sugar from each Mainland cane crop is normally marketed in two calendar years. However, the larger portion of the crop is marketed in the year in which harvesting begins. It is difficult to estimate the January 1, 1949 inventory at this time since it is too early to obtain a satisfactory estimate of the growing crop. Since the effective inventory for the area on January 1, 1948 was only about 170,000 tons and the 1948 quota is currently established at 513,260 tons, a total of more than 340,000 tons of 1948-crop sugar could be marketed prior to January 1, 1949, if available. Even if 1948-crop production in this area equalled the highest production of record (583,000 tons) the carry-over into 1949 would not be excessive in comparison to the statutory base quota of 500,000 tons.

In Hawaii and the Virgin Islands, the sugar extracted from sugarcane crops is normally marketed in the year in which it is produced, with comparatively small amounts carried over for marketing in the following year.

Stocks of sugar in Hawaii and the Virgin Islands on January 1, 1948, were negligible and production in 1948 is estimated at less than the quotas fixed by the act. Consequently, no limitation on 1948-crop production is required in these areas.

Protection to share tenants, share croppers and adherent planters. The protection to share tenants, share croppers and adherent planters provided for in this determination is substantially the same as that contained in previous determinations. While the wording of such determinations for the respective sugarcane areas varied somewhat, there was no substantial difference in the protection provided. Accordingly, uniform provisions have been made applicable to such areas. As heretofore, the provisions are not made applicable to the beet sugar area where similar protection cannot be accorded practicably, because sugar beets grown on the average farm constitute not more than 25 percent of the total acreage of all crops.

Conclusion. In view of these circumstances, I hereby find and conclude that the foregoing determination, which permits unlimited production and marketing from the indicated sugar beet and sugarcane crops, and provides protection to share tenants, share croppers and adherent planters in the sugarcane

areas, will effectuate the purposes of section 302 of the Sugar Act of 1948.

Issued this 13th day of July 1948.

I. W. DUGGAN,
Acting Secretary

DISPLACED PERSONS

New Farm Labor Source

Officials of the resettlement program for more than 200,000 Displaced Persons or war refugees in Europe, point out that the project of permitting their entry into this country under recent Congressional legislation, offers planters an excellent source of dependable labor. A large percentage of these homeless refugees have agricultural experience or background and are desirous of settling on the land. Also available among them are skilled workers in various crafts, i.e. agricultural workers, machinists, auto and tractor mechanics, carpenters, cooks, domestics, etc.

Program officials stress the fact that all of these Displaced Persons have been completely screened for desirability and dependability and have been examined for physical condition, under American direction.

Planters, business firms or individuals desiring to obtain services of individual Displaced Persons or Families, must file formal application, pledge to provide them with work, assure them housing, and pay prevailing wages. Transportation from Europe to United States Port of Entry (New Orleans for the South) is defrayed by International Refugee Organization, and applicants pay only inland transportation which will be low because of proximity to this port.

Interested operators, farmers or individuals may contact the nearest Catholic pastor, Protestant minister or Jewish Rabbi, or the nearest of the following Catholic Displaced Persons Diocesan chairmen: Rt. Rev. Msgr. Wm. J. Castel, 2630 Pine Street, New Orleans, La.; Very Rev. Msgr. H. J. Lerschen, St. Joseph's Church, Rayne, La., or Reverend Joseph Gremillion, St. Patrick's Church, Lake Providence, Louisiana.

STUDIES

(Continued from page 389)

and the limited growth prior to winter does not, as a rule, lower the supplies to critical levels. There is the disadvantage, however, that most of the suckering must be done in the spring and early summer months with resulting lowering of the average age of stalks at harvest in comparison with August planting.

Early September plantings ordinarily gives a relatively high rate of germination and permits extensive suckering before winter. However it does not permit the accumulation of nutrients in storage organs to levels commonly reached in the case of early August planting. In some cases, depending on the variety involved, September planting has resulted in weak sickly plants in the spring and in gappy stands due to relatively high winter mortality. Some varieties, notably P.O.J. 213 and to lesser degree Co. 281, gave unsatisfactory and occasionally disastrous results from early September planting. C.P. 34/120, Co. 290 and some of the other varieties now being cultivated may be planted during early September with relative safety, but even in such cases, planting during early August is ordinarily preferable.

Some Disadvantages of Summer Planting

Sugarcane stalk borers in relatively large numbers commonly overwinter in protected parts of the new growth from summer planted cane. Shaving commonly recommended as a borer control measure presents several disadvantages. If shaving is done at a relatively early date and extensive new growth develops and is later killed back, the effect on stands can be very harmful and occasionally disastrous. Late shaving entails an important sacrifice in growth.

Shoots resuming growth following shaving are of relatively uniform height in contrast with the customary gradation in height following undisturbed suckering. This interferes with the process of natural elimination to the extent of frequently permitting the survival of stalks in disadvantageously

large numbers. In our experiments, shaving has consistently depressed yields of cane and sugar per acre.

Size of Seed Pieces

The effect of size of seed piece on rate of germination and yields of cane and sugar was determined in a series of experiments conducted with Co. 281, Co. 290 and C.P. 807 and P.O.J. 213 during 1933 to 1936, inclusive. With the quantity of seed material per acre kept uniform, seed pieces of 2, 4, and 5 eyes each were compared to whole stalks.

In the average of all tests 2-eye pieces gave the highest rate of germination but the lowest yields of sugar per ton of cane and per acre. The harmful effects on yields obtained by cutting the seed cane into short pieces was no doubt due primarily to more extensive rotting of seed pieces as a result of the increased exposure. From results of all tests, the best compromise between low germination on the one hand and excessive exposure to seed cane rots on the other would seem to be found in a seed cane piece of about 5 joints. However, seed cane pieces of this size produced very slightly more sugar per acre than whole stalks. Results herein reported were obtained without the use of disinfectants. It is possible that appropriate treatments to reduce or prevent damage from seed cane rots might make it possible to utilize more advantageously the principle of increasing the rate of germination by reducing the size of seed pieces.

Rate of Planting

In the average of tests with C.P. 28/19, C.P. 28/11 and Co. 290, increasing the rate of planting from 1 to 2 "running stalks" gave an average annual increase of approximately 4 tons of cane per acre and 2½ pounds of sugar per ton of cane. Increasing the rate from 2 to 3 "running stalks" gave an additional slight increase in yield of sugar per ton of cane but no measureable increase in yield of cane per acre.

Depth of Planting

In tests of Co. 281, Co. 290, C.P. 807 and P.O.J. 234 extending from 1934 to 1937, a comparison was made of the following planting depths (thickness of soil layer over the seed piece at full ridging): 2, 4, 6, 8 and 10 inches. A planting depth of 2 inches gave the highest rate of germination but lowest yields of sugar per ton of cane and per acre. A planting depth of 6 inches gave the highest yield of sugar per acre—averaging 8 percent higher than 2-inch planting, 2 percent higher than 4-inch planting, 3 percent higher than 8-inch planting and 6 percent higher than 10-inch planting in the aggregate of plant cane, first and second stubble.

Increasing the depth of planting had a strikingly favorable effect on stubbling. In the average of second stubble crops the highest yield of sugar per acre was obtained from 10-inch planting.

Pre Treatment of Seed Cane to Increase the Rate of Germination

Treatments tested in this experiment included (1) soaking of seed cane in water at air temperature for a period of 72 hours prior to planting (2) topping of the standing cane 10 days ahead of cutting for planting and (3) heavy applications of nitrogen fertilizer on sugarcane plots intended for seed (240 pounds of nitrogen per acre).

Use of seed material from plots having received abnormally heavy dosages of nitrogen increased the rate of germination by approximately 25% and the yield of cane per acre by nearly 5%. The yield of sugar per ton of cane was not significantly affected. Other treatments tested gave no measurable improvements in either rate of germination or yields of cane and sugar.

Summary

Excessive quantities of seed cane required under present conditions and the danger of obtaining deficient stands

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n spite of the scheme of duplicate eeding suggest the importance of urther studies of germination and re-ated problems under Louisiana condi-ions.

Results obtained in this study show he need for an intensified study of planting practices. It is considered im-portant to examine critically any change n procedure affecting rate of germina-ion for secondary effects which may react harmfully with reference to winter survival or rate of spring growth. In he case of several of the practices studied, notably shallow planting and use of extremely short seed pieces, such harmful effects more than offset ad-vantages of increasing germination rates. On the other hand, use of heavy applications of nitrogen on seed cane plots and the already well-established practice of August planting may be ex-pected to increase the production of sugar per acre as well as the rate of germination.

Your County Agent Reports

Iberia Parish Crop Reports as of August 9th by W. E. Williams, County Agent, Iberia Parish, Louisiana.

Recent showers occurring in most of the sections of Iberia Parish have had a very beneficial effect on sugarcane. However, we have not had enough rain as yet. Unless we get heavy rains so moisture can penetrate down into the root zones our cane cannot do its best. Soil examinations show in most sections that we have not had enough rain to moisten the soil down as far as it should be moistened.

If we can get enough rain from now until harvest there is a possibility that we will make a fair sugarcane crop in Iberia Parish.

Indications at the present time looks like about 15 to 17 tons to the acre in Iberia Parish provided weather condi-tions are favorable from now until har-vest.

From records being turned in by cane farmers throughout the parish it seems as though our acreage will be slightly under the 1947 acreage. This is con-

(Continued on Page 398)

IN WASHINGTON

(Continued from page 387)

cording to latest available data, have not reflected the entire amounts of the earlier declines. For example, in Janu-ary, when the gross wholesale price was 8.40 cents per pound, the average retail price was 9.90 cents per pound, a spread of 1.50 cents. In April, when the wholesale price was 7.75 cents per pound, the average retail price was 9.40 cents, a spread of 1.65 cents. In June, with wholesale prices at 7.50 cents per pound for most of the month, retail prices averaged 9.20 cents, a spread of 1.70 cents.

Raw Sugar Prices Reach Low in May — Differentials Change — Raw sugar prices, duty-paid basis, New York, de-clined during the first 5 months of the year but recovered sufficiently during the latter part of June and the early part of July to bring them back to approximately the levels prevailing dur-ing the last half of January. The range in duty-paid raws was $1.32 per 100 pounds from a high of $6.32 to a low of $5.00, but 88 percent of the daily prices fell within the 50-cent range be-tween $5.70 and $5.20.

The differential between raws duty-paid New York basis and world raws f.a.s. Cuba declined steadily during the first 5 months of the year, from $1.88 per 100 pounds in January to 87 cents in May.

The spread between current prices of raw and refined sugar was larger than normal throughout the first half of 1948, but declined considerably at a time when the recovery in prices of raw sugar preceded that of refined sugar. At the beginning of July the current spread was about the same as it was at the beginning of January.

Sugar Beet Acreage Down; Sugar Cane Acreage Stable

The July 9 report of the Crop Re-porting Board shows 1948 sugar beet acreage for the United States is down 14 percent from 1947. California is the only state showing an increase. The 1948 sugar beet acreage as reported by the Board for California includes that in the Imperial Valley which was planted in the fall of 1947. The in-

dicated yield per acre is above average but not as high as in 1947.

In Louisiana the 1948 cane acreage is unchanged from 1947 and the yield per acre is expected to be above the low yield of 1947 but still below normal. In Florida the cane acreage was increased 5 percent and the yield per acre is expected to be slightly above average.

Sugarcane Acreages: The acreage of sugarcane for sirup is estimated at 97,000 acres, the lowest of record (1909 to date). This year's total compares with 112,000 acres in 1947 and the average of 124,000 acres. The sharpest decline occurred in Louisiana where a considerable part of last year's production is still on hand. Final utilization of sugarcane acreages in Louisiana and Florida will be determined by the relative prices of sugar and sirup. Weather has been generally favorable for sugarcane this season.

Sugarcane For Sugar and Seed: The acreage of sugarcane for sugar and seed is estimated at 322,900 acres, compared with 321,100 acres in 1947 and the 10-year average of 297,400 acres. All of the indicated increase took place in Florida where total acreage is estimated at 37,900 acres, compared with 36,100 acres last year. The Louisiana acreage, which normally accounts for about 90 percent of the Nation's total, is unchanged from the 1947 level.

July 1 conditions indicate a prospective cane production for sugar and seed of 6,201,000 tons, compared with 5,437,000 tons last year. In Florida, where the crop is grown under water control, about normal yields are expected. In Louisiana prolonged dry weather during June retarded growth but permitted cultivation. Yields there are now expected to be somewhat below average.

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RESUME

(Continued from page 388)

first and second stubble, this variety surpassed C.P. 34/120 by 785 pounds of sugar per acre and gave a higher average yield of sugar per ton of cane. It also surpassed Co. 290 by wide margins in average production of sugar per acre and per ton of cane.

According to our field observations C.P. 36/105 seemed to tolerate drouth conditions more satisfactorily than Co. 290 and C.P. 34/120 and this may be responsible, in part at least, for the exceptionally good relative showing made by C.P. 36/105 in 1947. Under more nearly normal conditions it may not maintain a corresponding advantage over the two other varieties, but judging from all comparative data available so far C.P. 36/105 promises to be a variety of widespread adaptability and seems destined to attain a place of major commercial importance.

According to Summers and Abbott[1] C.P. 36/105 has proved relatively susceptible to brown spot, the most severe symptoms having been observed chiefly in summer planted cane. This particular weakness may prove an important disadvantage. In the light of present information it would seem advisable to confine plantings of this variety largely, if not entirely, to the fall period.

C.P. 36/13

C.P. 36/13 significantly surpassed C.P. 34/120 in average yield of sugar per acre but was substantially below C.P. 36/105. It was consistently above C.P. 36/105 in yield of sugar per ton of cane. Better-than-average milling qualities and satisfactory adaptability to machine harvesting are among other favorable qualities of this variety. Occasional stand failures observed in commercial plantings of C.P. 36/13 in 1946 and again in 1947 have caused some concern. The area involved in such failures was relatively small in proportion to the total acreage planted to the variety, but stands in affected places were so reduced that the cane had to be plowed out. This condition must necessarily be regarded as a serious potential threat until more is known about the underlying cause or causes.

Co. 290

It is indicated by results of field experiments and confirmed by results of commercial operations that yields from Co. 290 are now no longer as satisfactory as they formerly were. In parishes east of the Atchafalaya River Co. 290 has been largely replaced with other varieties, principally C.P. 34/120, and C.P. 36/105. In the western parishes where plantings of Co. 290 are now largely concentrated, no widely adaptable substitute has been found so far. The following tabulation gives results obtained with Co. 290 in comparison with results from C.P. 36/105, 29/116, 34/120, 36/183 and F. 31/762 in the average of 4 tests in the western parishes (Oaklawn, Albania, Roland's Farm and Stella.)

Variety	Average yield of sugar per acre (pounds)			
	Plant cane	First stubble	Second stubble*	Average of (3 crops)
F. 31/762	2813	3523	3699	3345
C. P. 36/105	3118	3611	3209	3313
C. P. 36/183	3090	3259	2768	3039
Co. 290	3195	2817	2822	2945
C. P. 29/116	3283	2632	2370	2762
C. P. 34/120	2629	2285	2592	2502

* Oaklawn, Albania and Stella only.

On the basis of data shown above, C.P. 36/105 and F. (Florida) 31/762 are the only varieties of the group which may be considered serious competitors of Co. 290 in the western area. The slight and insignificant average advantage in yield of sugar per acre maintained by C.P. 36/183 is of little importance in view of the latter variety's tendency to lodge to a degree ordinarily precluding satisfactory use of machine harvesters now available. C.P. 29/116 and 34/120 averaged below Co. 290 in yield of sugar per acre.

Newly Released Varieties

Of special interest are results obtained with the varieties C.P. 34/92, 36/19, 36/183, released for commercial culture in 1947. Of these, C.P. 36/183 again indicated a relatively high order of productivity but failed to equal the performance of C.P. 36/105 in yield of sugar per acre. Average yields of sugar per acre from C.P. 36/19 and C.P. 34/92 compared favorably with yields obtained from C.P. 29/120 and Co. 290 and surpassed yields obtained from C.P. 34/120.

Unreleased Varieties

In line with results obtained in previous years C.P. 36/179, C.P. 37/5 and C.P. 36/178, were among the highest in yield of sugar per acre and gave very satisfactory average yields of sugar per ton of cane. In the average of all tests F. 31/762, F. 36/819 and C.P. 36/203 gave yields of sugar per acre substantially higher than obtained from C.P. 34/120 and closely approximating yields obtained from C.P. 36/105 in nearby tests. However, F. 36/819 and C.P. 36/203, appeared in plant cane and first stubble tests only. Poor stubbling qualities characteristic of both of these varieties will no doubt prove a serious disadvantage.

Seven varieties of the C.P. '43 series were included in preliminary tests. Of these C.P. 43/28, 43/32 and 43/47, surpassed C.P. 34/120 in yield of sugar per acre by wide margins and maintained a level of productivity substantially better than that of C.P. 36/105. C.P. 43/47 surpassed C.P. 34/120 in yield of sugar per ton of cane. In this respect C.P. 43/32 was insignificantly lower and C.P. 43/28 significantly lower than C.P. 34/120. C.P. 43/3 approximately equaled the performance of C.P. 36/105 in average yield of sugar per acre and per ton of cane.

Tests on Heavy Soils

The following tabulation gives average yields of sugar per acre obtained in tests on heavy soils with important commercial varieties and the more

Variety	Yield of 96° sugar per acre above (+) or below (—) C. P. 34/120. (Actual yields shown for C. P. 34/120)			
	Plant cane	First stubble	Second stubble	Mean of all crops
C. P. 34/120	(2901)	(2707)	(3429)	(3012)
Co. 290	—514	—522	—292	—443
C. P. 29/116	+563	—273	—293	— 1
C. P. 29/120	—510	+333	—121	— 99
C. P. 34/139	+371*	+782*	— 80	+358
C. P. 36/105	+210	+323	— 41	+164
C. P. 36/183	+188	+225	—903	— 63
C. P. 34/92	—301*	+126*	—286	—154
C. P. 36/13	+322	+1032*	----	+677
C. P. 36/197	+831	+252*	----	+541
C. P. 43/47	+373*	----	----	+373

* Single plot tests. Other values derived from results of replicated tests.

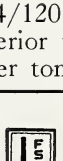
promising varieties not yet released for commercial culture in plant cane, first and second stubble tests in comparison with C.P. 34/120.

C.P. 34/120 equaled C.P. 29/116 and surpassed Co. 290 by 443 pounds in average yield of sugar per acre. These varietal relationships are similar to those observed in 1946 and place the relative performance of C.P. 34/120 at a level significantly lower than maintained in tests prior to 1946 in comparison with the other two varieties.

In the average of all tests C.P. 36/105 surpassed C.P. 34/120 by 164 pounds of sugar per acre but this advantage was not consistently shown in all tests. C.P. 36/183 averaged slightly below C.P. 34/120 in production of sugar per acre, and made a relatively poor showing in second stubble tests. C.P. 36/13 surpassed C.P. 34/120 but failed to equal C.P. 29/116 in yield of sugar per acre in replicated tests of plant cane. It appeared to very good advantage in single plot tests of first stubble.

In the average of all comparisons, including single plot tests of plant cane and first stubble and replicated tests of second stubble C.P. 34/139 maintained an average advantage in yield of sugar per acre over C.P. 34/120 and C.P. 29/116, with an average yield of sugar per ton of cane somewhat better than obtained from C.P. 29/116.

In line with results during previous years C.P. 29/120 and C.P. 34/92 did not quite equal the performance of C.P. 34/120 and C.P. 29/116 but surpassed Co. 290 in average production of sugar per acre in the average of plant cane, first and second stubble crops. C.P. 29/120 proved superior to C.P. 34/120 and C.P. 34/92 somewhat superior to C.P. 29/116 in yield of sugar per ton of cane.



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Tests on Muck Soil

The major problem on soils of this group is to produce cane of acceptable sucrose content under existing conditions of high fertility.

In line with results during 1945 and 1946, C.P. 28/19 gave very disappointing yields of cane per acre. This variety, heretofore extensively planted on account of dependable maturing qualities, has been largely abandoned as a result of declining yields apparently associated with extensive root rot and red rot damage. Among the promising varieties included in this experiment C.P. 36/13, 34/79 and 36/62, have compared favorably with C.P. 28/19 in yield of sugar per ton of cane. Of these C.P. 36/13 gave consistently the highest yield of sugar per acre, with an average yield more than twice as great as that from C.P. 28/19. Among varieties of moderately satisfactory maturing qualities C.P. 33/253 and C.P. 43/74 have shown some promise but neither of these equaled the average performance of C.P. 36/13 either in production of sugar per acre or in quality of mill cane.

[1] Disease testing and initial seedling selection work at the Houma Station during 1945. Sugar Bulletin 24, No. 18: 137A-138A. 1946.

COUNTY AGENT

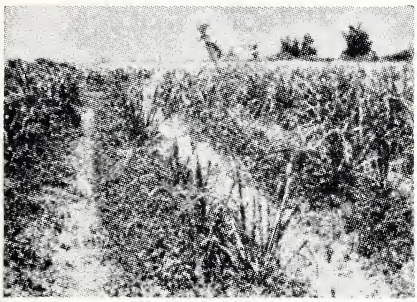
(Continued from Page 395)

trary to observations in the spring at that time indications were that the acreage would be about the same or maybe a little more. Evidently farmers plowed up more first and second year stubble than they expected to at that time. This plus the fact that some cane land was diverted to rice probably explains the indicated reduction in acreage.

Corn, especially the older corn, is turning out fair to good in spite of weather conditions. Lots of farmers claim they will make record yields of corn this year.

There was a large acreage of soil beans planted this year in the parish. Farmers are now plowing them under preparatory to planting the 1949 cane crop.

Treated



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THE SUGAR BULLETIN

ed as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

. 26 NEW ORLEANS, LA., SEPTEMBER 15, 1948 No. 24

Announcing The

TWENTY-SIXTH ANNUAL MEETING

of the

AMERICAN SUGAR CANE LEAGUE

of the

U. S. A., Inc.

THURSDAY, SEPTEMBER 30th, 1948

JACKSON ROOM, ST. CHARLES HOTEL

New Orleans, La.

Meeting Convenes at 2:00 P. M.

At this meeting there will be an election of Officers and Members of the Executive Committee to serve during the ensuing year.

All Members of the League Will Please Consider This as an Official Notice To Attend

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

MARCEL J. VOORHIES, Editor

The Official Organ of the American Sugar Cane League of the U. S. A.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year, Non-members $3.00 a year.

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IN WASHINGTON WITH C. J. BOURG

The Sugar Research Advisory Committee met in Washington on August 5th, 26th and 27th. Their recommendations were:

FISCAL YEAR 1949 PROJECTS

Marketing

1. Project No. 49—"Maintaining Sugar Content and Quality of Harvested Sugar Beets and Sugarcane". The Committee recommended the continuation of this project and suggested that it be classified as "Marketing" research where it properly falls. Top priority was given this project.

2. Project No. 137—"Competitive Relationships between Corn Sugar and Syrups and Cane and Beet Sugar and Syrups". The Committee recommended that a report be made and distributed to committee members.

3. Project No. 361—"Standards for Syrups, Molasses, and Liquid Sugars". The Committee recommended that this be completed on the samples now on hand.

4. Project No. 385—"Survey and Analysis of Sugar Marketing Structures, Possibilities for Improvements in Marketing Methods, and Practices in Reducing Market Costs". The Committee recommended that this project be discontinued. However, they agreed to discuss the matter with the Sugar Branch officials who recommended that it should be continued. The Committee recommended that the study take the course of a description of marketing processes and that the project be completed in 1949.

5. World Sugar Situation—The need for gathering information on sugar in other nations, especially in view of the International Sugar Agreement, was discussed at some length. It was agreed that it should be begun immediately and completed by the end of the year, the work to be done by the Sugar Branch in co-operation with Washington representatives.

Utilization

1. Project No. 373—"Sugar Technology Investigations".—was separated into two projects; one on finding new uses for sucrose and sucrose-containing solutions; and the other on sugar technology. In view of the fact that emergency conditions in the blackstrap market make it necessary to find new uses for blackstrap, it was agreed that first priority should be given to the molasses project.

2. Project No. 307—"Conversion of Vegetable and Animal By-product Surpluses and Wastes into New Feedstuffs and Establishment of their Feeding Values". The Colorado State College has a project on dehydration of beet tops with a view to the manufacturing and feeding of beet leaf meal. The question was raised regarding the possible adverse effect on soil fertility of the sale of beet tops off of the farm and suggested the advisability of enlarging the study to cover this possibility.

Production

1. During the past two years the Committee recommended a project on the development of new sugar crop varieties with special emphasis on varieties adapted to mechanical equipment. Such a project would be in addition to and parallel with work going on in plant

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SOME PRACTICAL MEANS OF IMPROVING STANDS OF SUGARCANE UNDER LOUISIANA CONDITIONS

By George Arceneaux, Senior Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research, Administration, United States Department of Agriculture.

A good stand is of prime importance with any field crop, but especially so with sugarcane where an initial deficiency will exert its harmful effects over several crops. In carefully controlled tests conducted at the Houma Station[1] a gap of 1½ feet caused an average loss of ¼ pound of sugar and a gap of 10 feet caused an average loss of 6½ pounds of sugar in the aggregate of plant cane and 2 stubble crops. In addition, gaps, and especially long gaps, greatly complicate the problem of weed control.

A perfect stand of sugarcane is not ordinarily obtained under plantation conditions in Louisiana. The percentage of the row footage occupied by gaps of 1½ feet or longer in plant cane will ordinarily range from 15 to 30%, this despite the fact that extremely heavy quantities of seed material are planted. The seriousness of gaps has assumed added importance with the spread of mechanized cultivation. Crop competition over every foot of the row is necessary for completely satisfactory results from disking and other mass operations now being widely substituted for hand weeding.

There is no doubt still room for much profitable research on planting problems with sugarcane under Louisiana conditions but it is the writer's belief that a substantial improvement in stands could be realized from more extensive use of information ow available.

Economy of Seed Material

The plant material ordinarily used in seeding one acre of cane contains from 30,000 to 40,000 eyes. One fourth of that number of mother stalks evenly spaced would give a very good stand. The reason for this apparently wasteful practice is two-fold:

(1) The planting material contains, to a varying degree, some portions from which no germination may be expected, notably borer damaged sections of th stalk and rolled-leaf sections in case where topping is done above the ter minal bud. In spite of exceedingly heavy planting, with two or more row of seed cane in the furrow, some o these blank sections will occasionally "match up" thus producing a gap. As suming complete absence of any sectio devoid of sound eyes the seeding rat could be materially reduced with safety Careful hand cutting of all cane in tended for seed purposes and steps t reduce to a minimum borer damage i cane intended for seed purposes ar clearly indicated.

(2) A second reason for this ap parently lavish use of seed material i the fact that only a relatively small per centage of the sound eyes will ordinarily germinate under Louisiana conditions Among practically feasible means of in creasing the rate of germination re cently investigated in tests at th Houma Station[2] segmenting of stalk and use of heavy application of nitroge on plots of cane intended for seed gav the most promising results. Use of see pieces shorter than whole stalks is o course not new to Louisiana growers The practice of "whacking" the can after it has been lined in seed furrow is probably as old as the industry it self. In controlled experiments[3] plante during early October it was found tha the rate of germination could be in creased materially by reducing the siz of seed pieces. In the average of al tests 5-eye pieces gave the highest yield of cane and sugar per acre. Use o shorter seed pieces although increasing the rate of germination resulted in a *decrease* in yields of cane and sugar as compared with whole stalks. The in creased exposure of short pieces to see rots is believed to have been an import ant factor.

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LABOR FOR PLANTING AND HARVESTING

With respect to planting and harvesting labor in sugarcane fields this fall the Chairman of the Labor Committee of the American Sugar Cane League has ascertained that foreign labor is available. In order to secure one's labor requirements it is necessary that an application be made to the United States Employment Service and this application must be accompanied by a performance bond to insure the return of the workers to their homes, and also a deposit of approximately $70.00 per worker to cover transportation and subsistence from their point of origin to the farm and back to their point of origin.

In any event the sugarcane farmer should make known to his local U. S. Employment office his labor needs for the planting and harvesting season, for either foreign or domestic labor. We are listing below the locations of the local U. S. E. S. offices:

Abbeville
Udor Broussard, 102 St. Charles St.
Alexandria
Lawrence W. Wicks, 601 Washington St.
Baton Rouge
A. H. Gipson, 742 Laurel St.
Franklin
Frederick J. Menuet, Courthouse Building.
Houma
Edward R. Rhoades, 501 Barrow St.
Lafayette
Marshall D. Lemoine, 215 Jefferson St.
Marksville
James I. Nichols, 206 East Mark St.
New Orleans
Germinal Messina, 127 Elks Place.
New Iberia
Phillip Cooley, 10 Bridge St.
Opelousas
Derta Ardoin, 138 E. Bellevue St.

CROP NEWS BY PARISHES

We asked our friends the County Agents to let us know for this issue of THE SUGAR BULLETIN whether the storm of September 4th had damaged the cane crop and what the tonnage prospects are in their districts at the present time, and, as usual, their response has been very gratifying.

St. Charles Parish. A. J. Melancon, Jr., states in his report that there was some storm damage to the cane in St. Charles Parish but that the results are hard to estimate because the cane has straightened back considerably. He anticipates that some trouble in harvesting will occur where the canes are badly tangled. As to the tonnage prospects he says that they are better than they were last year in his district.

St. Mary Parish. There was no storm damage in St. Mary Marish, according to our report from P. J. deGravelles, and the tonnage prospects there seem to be about 16 tons to the acre.

Avoyelles Parish. No storm damage was suffered in Avoyelles Parish and Kermit J. Ducote says that the cane tonnage is about average.

Lafourche Parish. Some cane was blown down by the storm in Lafourche Parish but A. C. Moreau reports that it is straightening up fairly well, except in spots. The tonnage prospects in Lafourche Parish look like between 16 and 18 tons to the acre.

Pointe Coupee Parish. A. B. Curet advises that no storm damage was sustained in his district.

Vermilion Parish. J. D. Sobert says that the cane is too short in Vermilion Parish for a storm to bother it. He estimates the crop at 8 tons to the acre.

Lafayette Parish. C. J. Brorkin reports that Lafayette Parish was not in the storm area but that the good rains received were helpful. He estimates that his district will produce approximately 130,000 tons of cane this season.

LOCALITY EFFECT IN COMPARATIVE VARIETAL YIELDS OF CANE AND SUGAR UNDER LOUISIANA CONDITIONS

By George Arceneaux, Senior Agronomist, and Leo P. Hebert, Assistant Agronomist, Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

It is widely recognized that existing differences in soil and other environmental conditions within the Louisiana Sugarcane Belt can account for important variations in relative varietal performance, therefore comparative varietal yield data must be interpreted in terms of soil type, locality, and other conditions under which the tests were made. Broadly speaking, sugarcane soils of Louisiana are commonly classified into three main categories: (1) light soils (2) heavy soils and (3) muck. Ordinarily, varietal responses may be expected to vary rather sharply between the 3 soil groups. Poor drainage and other adverse conditions characteristic of the heavy soils place a special premium on such characters as root rot resistance, red rot resistance and general vigor. On the better drained light soils, shortcomings with regard to such varietal traits might be compensated for by excellence in other respects such as maturing qualities, growth habit, etc. On muck soils the necessity of first importance is satisfactory maturing qualities.

Soils of the light group consisting largely of silt and sandy loams, are the most important in point of acreage and productivity. They include several distinct types and present important differences as to growing conditions. That the relative performance of a variety within this group of soils may be significantly affected by the locality factor is clearly shown by experience with Co. 290. This variety proved ideally suited to light soils of western parishes but has not been highly satisfactory on light soils of the eastern parishes. To a somewhat lesser degree the opposite was true of D-74.

During recent years the Division of Sugar Plant Investigations, U. S. Department of Agriculture has prepared annually a summary showing comparative yields of cane and sugar produced by important released and unreleased varieties over the preceding 5-year period. Average values as applying to light soil conditions are based on results from tests at 6 separate stations covering what is considered a fairly representative assortment of growing conditions. It is recognized that the performance of a given variety in relation to other varieties in such a series of tests may vary greatly from station to station. As between station 1 and station 2 the yield of variety "A" could show a greater average increase or decrease than variety "B", in fact variety "A" might increase and variety "B" decrease. Such *interactions* are of course not apparent in over-all average values.

From a statistical analysis of comparative varietal yields of cane and sugar obtained with different varieties at different stations it is possible to arrive at an accurate measure of the differential in the performance of each variety at each station. Such a value, sometimes referred to as the variety x station interaction term, may be expressed in terms of absolute units, e.g., tons of cane per acre or as a percentage value and has either a plus or a minus sign. A method of calculating the variety x station interaction term has been described in a previous publication.[1]

Table 1 gives results of an analysis of yield data obtained in tests of 11 varieties of sugarcanes during the past 7 years to determine the extent to which differences between stations had affected relative yields of cane per acre and sugar per ton of cane. The overall relative varietal yield values are expressed as percentages of corresponding yields from C. P. 34/120 in accordance with the plan followed in reporting comparative varietal data in the annual summaries. Variety x station interaction terms are on the basis of the

TABLE 1. Variations in relative varietal yields of cane and sugar on light soils in Louisiana in relation to station.

Variety	General average for 1943-47	Variety x Station interaction term							
		No. of tests on which int. term based[1]	Raceland	Alma	Oaklawn	Albania	Erath	Stella	Value required for .01 level of significance[2]
	Average yield of cane per acre (General average for C. P. 34/120 (100) = 25 tons)								
C. P. 34/120	100	12	4.6	5.5	2.0	—7.2	0.1	—4.9	3.76
Co. 290	102	12	—4.3	—11.3	2.5	4.7	10.1	—1.7	3.76
C. P. 29/116	105	12	3.1	4.8	—7.8	—0.1	—0.7	0.6	3.76
C. P. 29/320	73	12	—3.4	1.0	3.3	2.7	—9.5	6.0	3.76
C. P. 34/92	93	8	—10.1	11.4	12.0	9.5	—14.7	—7.8	5.25
C. P. 36/19	91	8	—5.1	—8.1	5.0	1.8	1.1	5.4	5.25
C. P. 36/105	100	8	5.5	—3.7	—7.8	0.6	9.2	—3.7	5.25
C. P. 36/183	106	8	8.2	—2.8	—4.7	—1.0	2.6	—2.1	5.25
C. P. 36/13	98	4	6.0	7.5	2.7	0.2	—13.1	—3.0	8.85
C. P. 36/179	102	4	8.3	—2.2	—4.9	—1.8	—2.7	3.0	8.85
C. P. 37/5	93	4	—2.3	—5.1	0.1	8.8	—7.3	5.8	8.85
	Average indicated yield of 96° sugar per ton of cane (General average for C. P. 34/120 (100) = 189.7 pounds)								
C. P. 34/120	100	12	—0.9	1.2	—0.3	2.4	—2.5	0.2	2.68
Co. 290	95	12	1.9	—3.1	—0.1	0.5	0.3	0.4	2.68
C. P. 29/116	89	12	—0.7	1.2	2.5	—2.1	—0.6	—0.3	2.68
C. P. 29/320	106	12	—0.2	0.6	—2.1	—0.8	2.8	—0.3	2.68
C. P. 34/92	94	8	4.4	—3.8	—0.4	—3.0	2.7	0.1	3.49
C. P. 36/19	103	8	1.9	3.6	0.7	—0.2	—3.0	—2.9	3.49
C. P. 36/105	101	8	—1.1	3.9	0.2	—0.2	—6.0	3.2	3.49
C. P. 36/183	102	8	—0.3	0.6	2.9	3.2	—7.7	1.4	3.49
C. P. 36/13	113	4	2.5	0.2	—4.0	0.5	1.0	—0.2	4.82
C. P. 36/179	100	4	—0.8	0.4	1.5	—3.0	—0.9	2.8	4.82
C. P. 37/5	109	4	—3.7	0.6	3.8	1.5	1.4	—3.7	4.82

[1] Half the number plant cane, other half first stubble.
[2] Value that large or larger highly significant.

same scale and were calculated in accordance with the method previously referred to. In the case of 4 varieties (Co. 290, C. P. 29/116, 29/320 and 34/120) the data examined covered 12 complete series of tests (6 plant cane and 6 first stubble). With 4 other varieties (C. P. 36/19, 36/105, 36/183 and 34/92) results from 8 series of such tests were available for the study, while in the case of 3 others (C. P. 36/13, 36/179 and 37/5) the available data consisted of results from 4 series of tests. In each case, varietal interaction terms are based on data from all varieties tested over the entire period involved. For instance interaction terms for C. P. 36/19, 36/105/ 36/183 and 34/92, were derived from an analysis of the data from the 4 mentioned varieties and of contemporary data from Co. 290, C. P. 29/116, 29/320 and 34/120. Interaction terms for C. P. 36/13, 36/179 and 37/5, are based on data from all varieties of the group obtained in the 4 series of tests involved.

In interpreting varietal interaction terms in relation to specific stations it must be recognized that such departures may or may not reflect the effects of basic locality differences. In many cases they are simply the result of random variation (experimental error). Also, prevailing weather conditions, degree of insect injury or other variables may combine to place the performance of a given variety in a given test far above or far below the level characteristic of the particular variety. It is obvious that no fundamental importance can be attached to such a departure from average performance unless the underlying factors are positively associated with the particular locality.

From conventional methods of statistical analysis it is possible to determine the order of significance of a calculated interaction term. The last column of table 1 shows the interaction value required in each case for a probability of .01. A value of that order may be regarded as highly significant.

It is customary to generalize on the adaptability of a sugarcane variety with reference to light soils east or west of the Atchafalaya River. Of the 6 stations listed in table 1, Raceland and Alma are in the eastern zone and the 4 others are in the western zone. In this con-

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GRAUGNARD AND LEVERT ON RAW SUGAR QUOTATION COMMITTEE

Mr. George L. Billeaud, of Broussard, La., who is the President of the Cane Products Trade Association, Inc., has announced the appointment of F. A. Graugnard, Jr., of St. James, La., and L. C. Levert, Jr., of Thibodaux, La., as members of the Raw Sugar Quotation Committee of his organization. Both Mr. Graugnard and Mr. Levert have accepted their appointments and are now working with the other members of the Committee to revise the rules used by the Cane Products Trade Association in quoting daily and weekly average prices for Louisiana raw sugar. The complete roster of the Raw Sugar Quotation Committee of the Cane Products Trade Association is as follows:

R. M. Murphy, of New Orleans, manager of the Waterford Sugar Cooperative and President of the State Agricultural Credit Corporation, is the Chairman of the Committee.

Louis Ebeling, member of the firm of Gay-Sullivan & Co., Inc., of New Orleans, sugar broker.

F. A. Graugnard, Jr., President of the St. James Sugar Cooperative, of St. James, La., cane grower and cooperative mill operator.

Louis LeBourgeois, Vice-President of the LeBourgeois Brokerage Company, of New Orleans, sugar broker.

L. C. Levert, Jr., cane grower of Lafourche Parish, who lives at the Rienze Plantation, Thibodaux.

C. W. Peterman, of the firm of Harry L. Laws & Co., owners of the Cinclaire Central Factory, and part owners of the Catherin Factory, who are also owners of cane plantations in West Baton Rouge and St. Mary Parish and sugar brokers in New Orleans.

E. A. Rainold, Jr., of E. A. Rainold, Inc., New Orleans, sugar broker.

Mr. Billeaud has also announced the appointment of Spencer Todd, a cane grower who lives in Franklin, La., as a member of the Blackstrap Molasses Quotation Committee of the Association.

2, 4-D CONTROL OF JOHNSON GRASS

(*From a Letter to the Editor by F. Evans Farwell*)

In the areas where Johnson grass has gone to seed over a period of many years, the results of fallow plowing show up very clearly in the plant cane crop, but by the time this area is in first or second year stubble, the Johnson grass has often made such a comeback that a great deal of the value of the fallow plowing has been lost.

Fortunately, the preliminary results with the use of 2,4-D to control Johnson grass seed emergence and small seedlings have been encouraging. Where the seedlings were too large for a kill, the Johnson grass has continued to grow, but in a very reduced manner, and often without being able to put out a tertiary root system. The hormone's reaction apparently has this effect: The plant is unable to store starch in the root system and therefore starves or operates on a reduced scale.

As we know, the number of seedlings that germinate under given conditions depend on the proximity of the seed to the surface of the soil, the temperature prevailing, and the moisture content of the soil. In planting land where the Johnson grass rhizomes and roots, but not the seeds, have been destroyed, we must face the fact that under normal weather conditions, the seeds will sprout after cane is planted in September. If these seedlings are not destroyed, they may make sufficient growth in the fall to set out a secondary root system that will entwine the planted cane. In exceptional seasons, if left undisturbed, these seedlings might produce seeds. If the seedlings are allowed to produce such storage roots, Johnson grass will emerge from these in the spring. This growth in the spring can be more or less controlled mechanically, except

where it occurs in the drill, as shaving will not remove all of such root joints.

Preliminary reports indicate that good control of such Johnson grass seeds can be obtained where 2# of 2,4-D (acid equivalent) is applied per acre to the lands immediately after the cane has been planted. This application, of course, prevents the planting of a winter cover crop.

Our Committee would be greatly aided if a large number of experiments could be set out in various sections of the State to test the efficiency of this fall application of 2,4-D.

Where it is known that a large number of Johnson grass seeds are present and where proper fallow plowing has been done during the late spring and summer, test plots should be set out. Applications should be made.

1. With a spray 18" wide covering the drill only.
2. 24" wide.
3. Blanket spraying of the entire area.

If a large number of planters will set out experimental plots along these lines, their County Agents will cooperate with them in checking results against check plots and such information gathered from these tests will be invaluable to the League's Johnson Grass Committee, and others studying these problems.

2,4-D should be applied with a basic water rate of 50 to 100 gallons per acre. Care should be taken that the spray does not drift to broad leaf plants or vegetables. The sprayed area should *not be disturbed* in any way after the application of the spray. If seedlings make rapid growth on the balance of the row after the 18 and 24" swath is sprayed, two-row cultivators could be used to make certain that the seedlings do not develop to the point of putting out storage roots.

Along with such experiments, it would be good to check the costs of keeping the Johnson grass seedlings from growing by purely mechanical means, such as two-row cultivators; some check plots with no cultivation or spraying; and other check plots with winter cover crops.

We feel that we are definitely on the right track with the fallow plowing, but to get a more complete control of Johnson grass, we must solve this seedling problem and we believe that many experiments in various localities will go a long way toward securing conclusive evidence that will be helpful to all of us.

LOCALITY EFFECT

(Continued from page 407)

nection it is interesting to note that relative yields of cane per acre from C. P. 34/120 showed significantly positive interaction values at eastern stations but the net average negative departure at the western stations was not consistently maintained at each place. Yields of cane per acre from Co. 290 on the other hand gave high negative interaction values at eastern stations and again the net average positive departure was not consistently maintained at western stations. Other varieties displaying significantly high differentials in relative yield of cane per acre that tended to conform to above mentioned sectional subdivisions were C. P. 29/116 with positive interaction values and C. P. 36/19 with negative values at eastern stations. In the main, important station differentials in yield of cane per acre observed with other varieties could not be clearly correlated with the two sectional subdivisions. For instance in the case of C. P. 29/320 the greatest differential was observed between Erath with a minus 9.5 and Stella with a plus 6.0. Both of these stations are in the western zone.

Variety x station interaction values for yield of sugar per ton of cane did not show any consistent sectional relationship. For instance the relatively high departure of —3.1 observed with Co. 290 at Alma was partly offset by a plus 1.9 at Raceland. The —7.7 departure of C. P. 36/183 at Erath was largely compensated for by plus values at Oaklawn, Albania and Stella.

It is obvious from a consideration of data presented in table 1 that the differential in varietal response as related to differences between stations was largely a matter of variations in yield of cane per acre. The order of locality-related variations in yield of sugar per

ton of cane was ordinarily much smaller and attained significance in a much lesser percentage of the observations.

In attempting to evaluate the significance of observed differences in relative varietal performance from place to place it should be recognized that an observed departure from the general varietal average may be due in part to locality differences of fundamental importance and in part to random variations which are in no way related to such differences. Quite commonly, what appears to be an important variety x locality interaction in relatively few tests will be greatly reduced or may disappear entirely when tests are repeated over a longer period of time. The tendency for such a differential value to "iron out" in the course of time is due to the fact that random variations eventually tend to neutralize each other, thus leaving more and more the net effect of factors forming an essential feature of the particular station environment. This was clearly shown by a statistical analysis of the experimental data upon which are based values shown in table 1. In the case of averages in yield of cane per acre based on 12 series of tests a locality x station interaction term of 3.76 was required for .01 significance as compared with a value of 8.85 required in the case of averages based on 4 series of tests. When derived from results of a single series of experiments an interaction value of 17.7 would be required for the same order of significance. Since the general average for C. P. 34/120 (100) is 25 tons, a value of 3.76 in table 1 corresponds to 0.94 ton and one of 17.7 to 4.42 tons.

It is customary in Louisiana to express varietal adaptability on light soils in rather broad terms. We speak for instance of varieties for the western parishes, for southeastern parishes, etc. The data presented in table 1 while indicating in some instances which have been previously cited certain trends that could be correlated with sectional divisions the varietal responses did not as a rule follow clear cut sectional lines. Quite frequently the yield differential was more pronounced between certain stations of the same section than between stations of different sections. For instance if we compare varietal interactions for yield of cane per acre at Stella and at Erath we find that they have the same sign (either both plus or both minus) for only 3 of the 11 varieties while a similar comparison of values for Stella and Alma shows 5 of the same sign and 6 of opposite signs. In attempting to interpret such an apparent discrepancy we should recognize that results of individual tests reflect the effects of some factors which are characteristic of the section and of others which are highly particularized. Differences in soil types, in level of fertility and in cultural practices might combine in such a way as to give highly different varietal trends at two nearby stations and by the same token could make for highly similar trends at widely separated stations. In other words in making a test of varieties at a given station we are not only getting a sample of the particular region involved but in addition we are sampling a wide assortment of other variables which may have a predominant effect on varietal relationships. It is therefore considered important to keep this in mind in attempting to generalize from results of individual tests.

It should also be recognized that some factors which may or may not be reflected in the form of a yield differential such as shown in table 1, could play an important part in determining the suitability of a given variety for a given locality. On the whole, the level of soil fertility west of the Atchafalaya River is lower than in parishes to the east. Ordinarily the yield of cane per acre from a given variety will be higher in the east and the yield of sugar per ton of cane will be higher in the west. If a variety is weak in vigor that weakness is more likely to be critical in the western parishes, whereas late maturity is more likely to be critical in the eastern parishes. It is therefore easy to understand how this relationship will, in itself, affect sectional preferences for varieties entirely aside from factors related to changes in yield ratios from place to place.

To summarize — Relative varietal

yields of cane and sugar on light soils s given in the annual summary are based on average results obtained at 6 tations. An analysis of yield data obained in variety tests since 1941 disclosed some important variety x station interactions. In some cases interction values tended to show a certain legree of agreement within recognized ectional divisions but in other cases ighly dissimilar varietal trends were naintained at stations within the same eneral area. It is concluded that while bserved station and sectional departures in varietal performance should be arefully considered in evaluating a ariety for a given locality, it cannot e assumed that trends maintained at given station should be taken as entirely representative of all similar soils f the vicinity. The specific environment in question combines many factors ome of which are common to the ocality while others are definitely limted to the particular test station.

[1] Arceneaux, George, and Hebert, L. P. A statistical analysis of varietal yields of sugarcane obtained over a period of years. Jour. Am. Soc. Agron. Vol. 35, No. 2. pp. 148-160. 1943.

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IMPROVING STANDS

(Continued from page 404)

Optimum size of seed pieces for summer planting has not been determined experimentally and it is possible that it may vary from the size found most suitable for fall planting. Varietal differences may also have an important bearing. For these reasons it is felt that the problem should be studied further in the light of present conditions.

Heavy applications of nitrogen fertilizer on cane to be used for seed purposes increased the rate of germination by approximately 25% and significantly reduced the time required for germination. Yields of cane and sugar per acre were also significantly increased. Since increasing the dosage of nitrogen on plots intended for seed purposes improves the seeding quality of the cane in addition to giving a probable increase in the tonnage of cane per acre it may be assumed that the optimum rate will differ from that on cane intended for milling purposes. Results of our studies indicate that applications up to 240 pounds of nitrogen per acre may be advantageously made on cane intended for seed purposes.

Height of Row

Advocates of flat cultivation for sugarcane have come and gone but sugarcane farmers of Louisiana throughout a century and a half have continued to plant sugarcane on relatively high ridges. Results of experiments at the Houma Station in which low, medium and high rows were compared are in complete agreement with practical experience. Advantages of high ridging of rows (14-16 inches) were especially pronounced in stubble crops. Rows should be ridged to the height mentioned at time of planting. They will pack and erode down to a lesser height during winter.

Depth of Planting

In results of tests on well drained light soil (2) placement of seed pieces to a depth of 6 inches below the top of the ridge gave the best results. With a ridge of the customary height this places seed pieces substantially above the water furrow thus assuring satisfactory drainage during winter months. Planting to lesser depths gave a *higher* average rate of germination and fairly satisfactory plant cane crops but resulted in relatively poor stubble crops. Deep planting (10 inches below the top of the ridge) gave the best second stubble crops but averaged significantly below the 6-inch planting in the average of plant cane, first and second stubble crops. In the case of heavy clay soils, it has ordinarily been found necessary to reduce the depth of planting to approximately 4 inches in order to obtain satisfactory stands.

Precision Placement

It is a common experience in the spring to see off-bar plows and shavers destroying cane plants by digging up seed pieces in the way of the implements. This is brought about by (1) irregular spacing of seed furrows and (2) undue lateral and vertical spread of seed pieces within the placement zone. Much of this could be avoided by planting the seed cane in more com-

pact bands along lines spaced at a consistently uniform distance. Where such precautions have not been taken at planting time damage of the sort mentioned could be greatly reduced by avoiding close off-barring and exercising greater care in the operation of shavers.

Supplies of Stored Nutrients for Spring Growth

Securing a good stand of vigorous sugarcane plants in the spring under Louisiana conditions is greatly complicated by the fact that the young plants following planting in the fall or late summer are killed back in winter and resume growth in the spring after a period of semi-dormancy. Satisfactory overwintering of shoots and prompt resumption of growth in the spring are favored by plentiful supplies of nutrients in seed pieces and other storage organs. Undue stimulation of the rate of germination beyond ordinary limits could result in reducing stored nutrients to critical levels and thus unfavorably affect winter survival and initial spring growth. This is believed to have been an important factor in some of the cases where treatments to increase the rate of fall germination had an unfavorable effect on yields of cane and sugar. Such a problem is not presented in places where initial growth is not killed back during winter months.

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SUMMARY

Summary

The presence of blank sections (borer injured joints and leaf-roll) in seed cane as commonly planted in Louisiana necessitates the use of larger quantities of good seed material than would otherwise be required. Careful topping of seed cane and steps to avoid the use of borer injured sections would seem to offer important possibilities in this connection.

Use of 5-eye pieces planted to a depth of 6 inches on ridges 14 to 16 inches high gave the best yields of cane and sugar per acre. Use of heavy dosages of nitrogen fertilizer on cane to be used for seed increased the rate of germination by 25 percent and significantly increased yields of cane and sugar per acre.

Increases in rate of germination through the use of short seed pieces and shallow planting have not resulted in consistently increased yields of cane and sugar. This is interpreted as due to secondary effects in relation to winter survival and vigor of spring shoots. It is believed that increased exposure to seed rots in the case of short seed pieces and depletion of food reserves in storage organs from over stimulated germination are the principal factors involved.

Many gaps in plant cane are caused by shavers and off-bar plows as a result of uneven spacing of cane rows and undue lateral and vertical dispersal of cuttings within the seed zone. This

source of gaps would be largely eliminated through uniform spacing of seed lines and placement of seed pieces in a more compact band.

[1] Arceneaux, G., and Stokes, I. E. Studies of gaps in sugarcane rows and their effects upon yields under Louisiana conditions. U. S. Dept. Agr. Circ. 521. 20 pp. illus. 1939.

[2] Arceneaux, G. Studies of some practical means of increasing the rate of sugarcane germination under Louisiana conditions. Report to Contact Committee of American Sugar Cane League.

[3] Arceneaux, G. Op. Cit.

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IN WASHINGTON

(Continued from page 403)

breeding under regular funds. The Committee recommended that this project be inaugurated immediately and made it the No. 1 priority project under "Production".

2. The Committee recommended a project for ways and means to eliminate trash in sugarcane and sugar beets. If funds are available, it should be inaugurated prior to the beginning of the harvest of the 1948 crop.

3. Project No. 62—"Economics of Farm Mechanization and Other Techniques". After an explanation from the Bureau of Agricultural Economics, it was recommended that this project end during the fiscal year 1949. The Committee recommended that a progress report be prepared in January, and that before making the final report, information available in state universities be drawn upon to round out the final report.

4. Project No. 57—"Cooperative National Research Program for Weed Control". The Committee recommended its continuation and that other states be encouraged to enter into contracts with their State Experiment Stations.

FISCAL YEAR 1950 PROJECTS

Marketing

1. Project No. 49 includes work in progress on the causes and remedies of losses of sugar content and quality of sugar beets in storage. It was also recommended that this project be given the highest priority under "Marketing".

2. Project No. 137 will be completed in fiscal year 1949 and a new project

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is recommended to complete the type of information which is being gathered on the distribution and marketing of sugar, sugar products, and competitive sweeteners for use in the home.

Utilization

1. The Committee recommends the continuation and expansion of research on new uses and outlets for blackstrap molasses. The Committee recommends top priority under "Utilization".

2. Project No. 307 relates to the utilization of sugar beet tops. It is recommended that (1) utilization of sugar beet crowns as a media in the production of penicillin, (2) that sugarcane tops be studied for production of feeds; and (3) that methods and equipment be developed for recovering and handling tops or crowns most efficiently.

3. Project No. 373—The essential nature of technological advancement to stability and progress in the sugar industry is fully recognized. The emergency nature of the blackstrap molasses and the sugar beet top situation gives them priority although technology studies are necessary.

Production

1. The Committee strongly recommends continuation in fiscal year 1950 of the varietal development work recommended for 1949. It is urged that the work started in fiscal year 1949 be vigorously pushed in 1950 with the assignment of adequate funds therefor.

2. Trash Elimination—The Committee recommends continuation of its 1949 recommendation into 1950.

3. Project No. 57—The Committee recommends that it be continued and expanded in 1950, with additional work on weeds in sugarcane.

4. The Committee recommends further development and use of insecticides to control insect pests in sugarcane and sugar beets.

5. The Committee recommends a project to study nutritional or fertilizer requirements for sugar beet and sugarcane plants in 1950.

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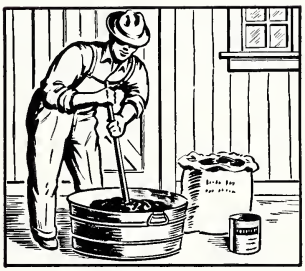

Mixing NITRAGIN with legume seed is as easy as stirring up a batch of feed. Just moisten inoculant . . . spread over seed and stir.

This pea field scene shows the value of NITRAGIN inoculation. Stand at left was inoculated with NITRAGIN. At right, no inoculant was used.

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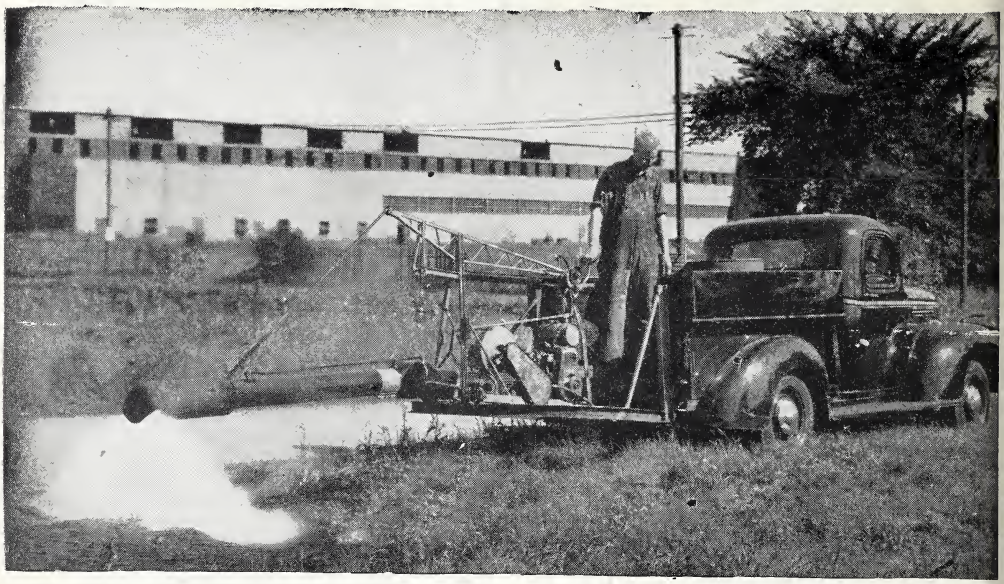
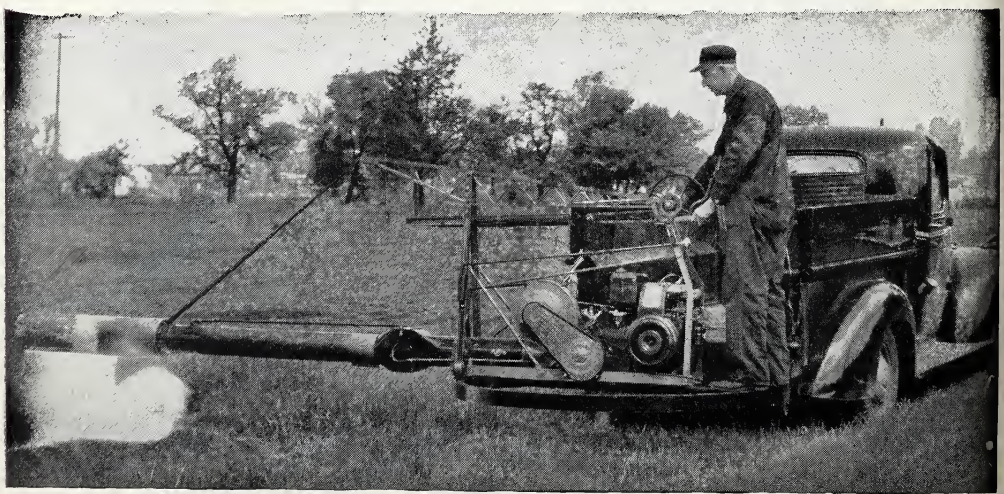


The above picture shows the Model "A" mounted on circular track which, in turn, is bolted to truck body floor for straight-away burning. When so mounted the burner unit can be swung through an arc of 180 degrees by the operator. The lower picture with the same mounting shows the burned set at an angle with a special burner head adapted for ditch and ditch bank burning.

The Model "A" has an oil burning capacity of 60 g.p.h. and produces a dense, high velocity, intensely hot flame which sears green vegetation quickly. Under average conditions the first trip can be made at about 8 m.p.h. and the second trip, which should be made from 2 to 10 days later after the sun has dried the vegetation, the speed may be much faster—10 to 15 m.p.h.

The Model "A" burning a swath 5 feet wide at 8 m.p.h. consumes 8 gallons of fuel oil per mile. At 5c per gallon the cost would be 40c. Burning one acre at the same speed consumes 13 gallons of fuel oil; at 5c per gallon the cost would be 65c.

Representative in Louisiana, WOODWARD, WIGHT & CO., LTD., New Orleans 9, La.



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